



U.S. Department
of Transportation
**Federal Aviation
Administration**

Airport Emergency Plan

Advisory Circular 150/5200-31

Date: January 27, 1989





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Advisory Circular

Subject: AIRPORT EMERGENCY PLAN

Date: 1/27/89
Initiated by: AAS-300

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Change:

1. PURPOSE. This advisory circular (AC) provides guidance for the preparation of emergency plans at civil airports.

2. FOCUS. This material is intended primarily for airport operators in the development, review, and revision of their airport emergency plan (AEP). It may also be useful for off-airport emergency service organizations (fire and police departments, hospitals, rescue squads, etc.) which interface with airport emergency operations.

3. RELATED FEDERAL AVIATION REGULATIONS. FAR Part 139, Certification and Operations: Land Airports Serving Certain Air Carriers, contains requirements for an AEP. This AC may be used by operators of certificated airports in meeting those requirements.

4. RELATED READING MATERIAL. Other helpful source material may be found in the following publications (current edition). The prefix AC means advisory circular.

a. AC 139.201-1, Airport Certification Manual (ACM) & Airport Certification Specifications (ACS).

b. AC 150/5200-12, Fire Department Responsibility in Protecting Evidence at the Scene of an Aircraft Accident.

c. AC 150/5200-15, Announcement of Availability--International Fire Service Training Association's Manual 206, Aircraft Fire Protection and Rescue Procedures.

d. AC 150/5200-21, Announcement of Availability--U.S. Air Force Technical Order (T.O. 00-105E-9) Aircraft Emergency.

e. AC 150/5200-27, Announcement of Availability--National Fire Protection Association's Standard for Professional Qualifications for Airport Fire Fighters.

f. AC 150/5210-2, Airport Emergency Medical Facilities and Services.

g. AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on the Airport.

h. AC 150/5210-6, Aircraft Fire and Rescue Facilities and Extinguishing Agents.

i. AC 150/5210-7, Aircraft Fire and Rescue Communications.

j. AC 150/5210-13, Water Rescue Plans, Facilities, and Equipment.

k. AC 150/5210-14, Airport Fire and Rescue Personnel Protective Clothing.

l. AC 150/5210-15, Airport Rescue and Firefighting Station Building Design.

m. AC 150/5220-4, Water Supply Systems for Aircraft Fire and Rescue Protection.

n. AC 150/5220-14, Airport Fire and Rescue Vehicle Specification Guide.

o. AC 150/5220-17, Design Standards for an Aircraft Rescue and Firefighting Training Facility.

p. AC 150/5325-5, Aircraft Data.

q. AC 150/5230-4, Aircraft Fuel Storage, Handling, and Dispensing on Airports.

r. Federal Emergency Management Agency Publication "Air Disaster Response Planning - Lessons for the Future", Nomograph Series 1985.

s. National Fire Protection Association 402M, 403 and 424M.

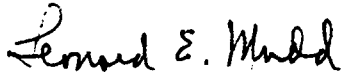
t. AC 150/5200-13, Removal of Disabled Aircraft.

u. Airport Services Manual: Part 7, Airport Emergency Planning.

v. Order 5280.5, Airport Certification Program Handbook.

5. QUESTIONS AND SUGGESTIONS. Questions about this circular may be telephoned directly to (202) 267-8724 or written to the address below. Suggestions for changes will be accepted by telephone but an informal written suggestion is preferred.

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CHAPTER 1. INTRODUCTION

1. WHAT IS AN AIRPORT EMERGENCY.

Within the framework of Webster's definition, and as commonly accepted in the aviation community, Emergency means an unforeseen combination of circumstances that calls for immediate action. The context includes the elements of danger and personal distress. While the event can seldom be exactly foreseen, it can be anticipated and prepared for. For the purposes of an Airport Emergency Plan (AEP), we will limit the Airport Emergency (hereinafter referred to simply as Emergency) to an event that occurs on an airport or on adjacent property within the authority and responsibility of the airport management to initiate a response.

2. WHY HAVE AN EMERGENCY PLAN.

Today's airport may be a small, uncomplicated facility or it may approximate a good sized community complete with residential, industrial, and commercial installations. An emergency can involve multiple aircraft, large numbers of people, and buildings and equipment. Its consequences can rapidly outpace the response capacity of airport based resources. Consequently, airports depend to varying degrees on the emergency response capabilities of surrounding communities. The AEP provides: the framework upon which the various response capabilities are identified and organized; and the outline for response management to bring them into play when the occasion demands.

a. **RESPONSE FRAMEWORK.** For a given emergency certain response capabilities are more appropriate than others, and some may be relatively useless. The AEP should provide an inventory of response options, and their capabilities, which are available to the airport. The inventory should be arranged to provide an immediate association of each type of emergency with the appropriate option(s). Two examples of methods for doing this are: listing response options by type of emergency (preselected response packages); or constructing a table with response options on one axis and types of emergencies on the other axis. This would facilitate the selection of the optimum combination of response capabilities for a particular type of emergency.

b. **RESPONSE MANAGEMENT.** The successful reduction of an emergency requires timely and effective employment of the available response capabilities. The first 15 minutes is the most critical period in the whole process. It is also likely to be the most difficult to execute properly. The chances for the effective employment of response capabilities diminish sharply if, in the first crucial minutes, action is initiated weakly or is misdirected. To make matters more difficult, experience seems to tell us that the most knowledgeable and qualified persons are frequently doing something else when the first button needs to be pushed or the first telephone call needs to be made. The effective AEP provides for the emergency alarm, emergency identification, and initial response selection, in terms and format that are within the capabilities of the least experienced or knowledgeable person upon whom those first chores may fall. The effective plan will also provide for alternative actions to be substituted when the first choices are unavailable due to unforeseen circumstances. The alternatives should include instructions for obtaining authority for the actions if necessary. And in all of this, the plan should maintain that fine balance between enough instructions to guide the action along desired paths, but not so much that dead ends are created when specified tasks are hampered by circumstances.

3. **HOW AN EMERGENCY PLAN IS PREPARED.** Developing the AEP requires that all airport operators thoroughly understand the needs of their particular airports. The AEP should accommodate such factors as the environment of the airport, its operational characteristics, its functions and the operator's responsibilities, and the nature and extent of the available emergency response services. Such services include those of the airport, the community, and local and federal government agencies. For example, if the airport lies close to a body of water, water rescue equipment is essential. Airport operators should know what services are available from the surrounding communities. Coordination and communication among all airport components -- airlines, tenants, control tower, Aircraft Rescue and Firefighting (ARFF) service, and

others —are critical to a successful AEP; coordination and communication among all outside agencies and organizations that may be called on to respond are also critical. Figure 1-1 illustrates how the various inputs might be organized.

4. WHAT IS NEEDED. An AEP defines procedures and resources for responding to emergencies for an airport and its surrounding community. It describes jurisdictional boundaries, chain of command, communication and coordination procedures. While each plan reflects the particular needs of the airport and its surrounding community, it should also contain the following general, common elements as well:

a. Scope. A description of the extent of the plan and those involved in it.

b. Emergency communications. A description of the emergency communications network for both telephone and radio, including a list of telephone numbers, radio frequencies, and page numbers (if used).

c. Responsibilities. A chain of command and definition of emergency actions for each responsible position.

d. Procedures for the emergency plan. Specific step-by-step actions for selected emergencies.

e. Agreements with emergency response organizations, which describe the support each agency will provide to the airport.

f. Airport grid map. A map of the airport with a superimposed grid that allows a specific airport location to be identified by horizontal and vertical coordinates. (The map may be used to show access points and staging areas for aircraft during bomb threats).

g. Documentation. Other information that pertains to the development or execution of the AEP (e.g., lists of emergency resources, lists of equipment, critique forms, and sources of "victims" when conducting an exercise).

5.-19. RESERVED.

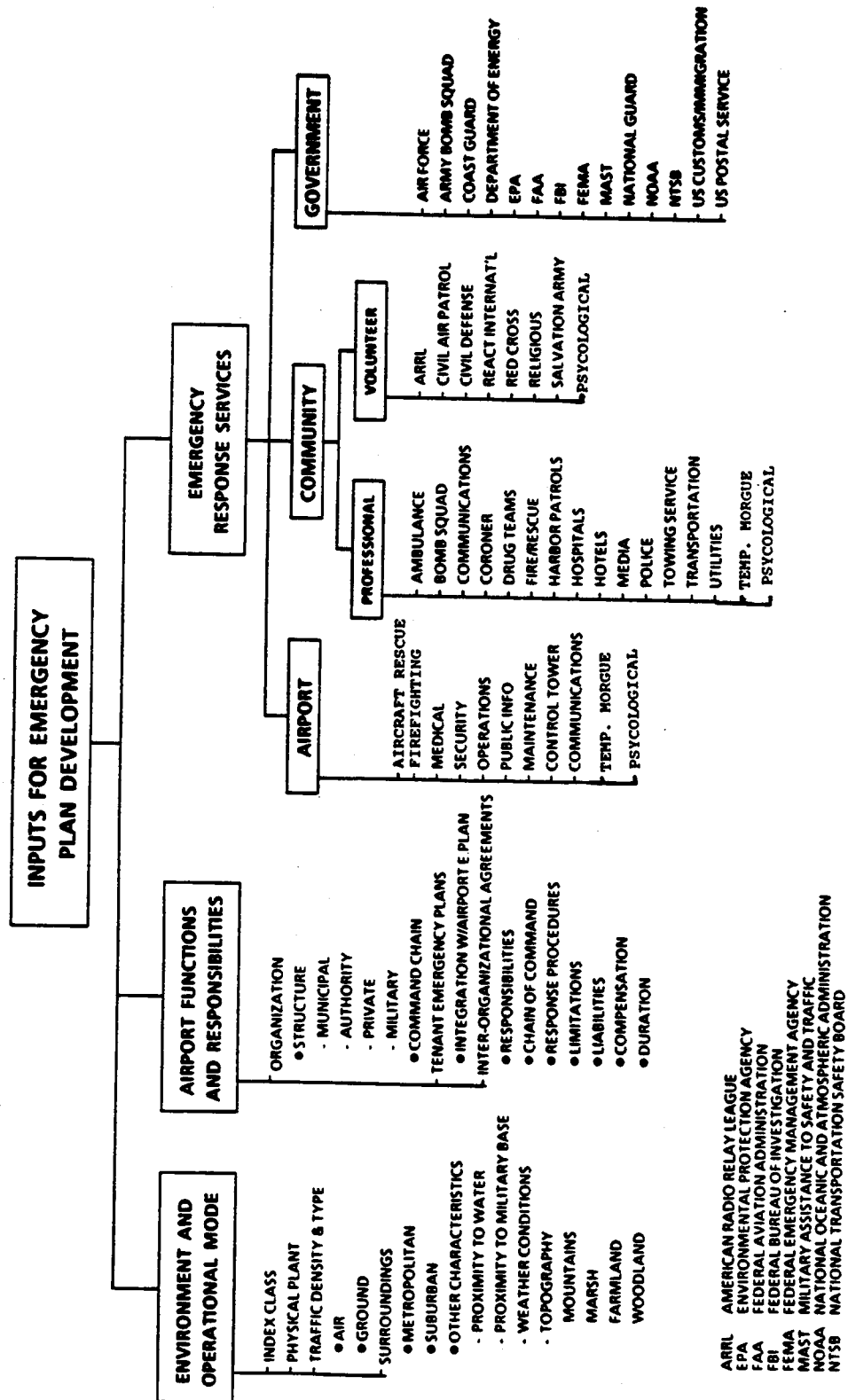


Figure 1-1. Organization of Inputs for Emergency Plan Development

CHAPTER 2. DEVELOPING THE PLAN

20. INTRODUCTION. AEP preparers may request that experts from the airport staff or the surrounding community assist them in defining emergencies and developing the plan. In the development of the AEP it should be emphasized that the AEP should be a working plan, or plan of action, not just a listing of agencies and telephone numbers.

a. Fundamental requirements. Development of an AEP requires:

- (1) A description of what the AEP will cover,
- (2) An understanding of what constitutes an emergency, including minor incidents that could develop into major catastrophes,
- (3) A knowledge of the necessary means for dealing with and controlling an emergency,
- (4) A knowledge of the resources best suited to resolve any given emergency,
- (5) An understanding of the three major elements that affect operations during an emergency, namely, COMMAND, CONTROL, and COMMUNICATIONS,
- (6) An awareness of the phases of an emergency, and
- (7) Procedures for water rescue situations when the airport is near a large body of water.

b. Scope of the AEP. The first step in developing the AEP is to define its scope: i.e., the areas covered by the plan and the threats that are likely to arise. The scope of the AEP is to list the actions required before, during, and after an emergency, to minimize the effect of the emergency on airport operations and reduce the loss of life and property from the emergency. The plan should describe in detail the specific areas the plan is designed to protect (e.g., runway, taxiway, ramp areas, automobile parking facilities, terminals, and other structures). Defining the scope of the AEP may help to identify the similarities and differences among the various areas at the airport; this will help airport operators develop specific procedures appropriate to their particular airports for resolving emergencies. Before taking any action to resolve an emergency, airport operators should clearly define the actual or potential threat they face; only then can they take appropriate actions. An approach that fails to define the threat may make a bad situation worse:

inappropriate actions may be taken, or the wrong equipment may be used.

c. Categories of emergencies. The first step in identifying requirements and resource availability is to develop a list of "generic" emergency conditions. Such a list might include:

- (1) Aircraft incidents and accidents,
- (2) Bomb incidents, including designated parking areas for the aircraft involved,
- (3) Structural fires,
- (4) Natural disasters,
- (5) Radiological incidents,
- (6) Sabotage, hijacking incidents, and other unlawful interface with operations,
- (7) Failure of power for movement area lighting, and
- (8) Water rescue situations.

Appendix 1 contains examples of procedures for responding to several of the above emergencies.

d. Complicating factors of emergencies. Once airport operators identify the generic types of emergencies, they should then list the various problems that may complicate emergency response efforts. A list of such complications might include:

- (1) An aircraft submerged in water or surrounded by ice,
- (2) An accident involving an aircraft and a building structure,
- (3) A baggage tug that rams an airplane at the gate,
- (4) A hurricane that knocks out the phone lines,
- (5) A snowstorm that closes the airport, making it impossible to relieve staff and delaying the delivery of supplies, and
- (6) Conditions that only a trained or experienced observer would recognize as being dangerous. AEP preparers may try to locate trained or experienced observers from the airport staff or from the surrounding community for advice on identifying such conditions.

e. Major elements of operational effectiveness. Once preparers have identified the fundamental re-

quirements and scope of the AEP, the categories of emergencies, and the complicating factors, they may begin to develop procedures that describe what actions will be taken, who will take which action(s) and when, and which resources will be used for each action. Several drafts may be required before an emergency procedure is developed that is both effective and rapid. Throughout the development of the AEP, airport operators should keep in mind that the effectiveness of emergency operations depends on three critical elements: *COMMAND*, *CONTROL*, and *COMMUNICATIONS*. Someone must be in command to have control, and control depends on *communications*.

(1) **Command.** *Command* refers to the ability to act with clearly defined authority, to dominate the actions of the many elements involved so that the objective (resolving the emergency) is accomplished, and most importantly, to accept responsibility at the scene. The person in *command* of the overall emergency response operation is called the Site Coordinator; working under the Site Coordinator are the coordinators of the specific emergency response functional areas. The emergency response operation is coordinated from a vehicle or area called the Command Post.

(2) **Control.** *Control* means that a procedure has been established that coordinates the activities of the many participants, so that the emergency is effectively resolved without duplication of limited resources. Airport operators should assign tasks and delegate appropriate authority.

(3) **Communications.** *Communications* is the "central nervous system" that holds the entire organization together. Without it, command cannot control the procedures. The concept of communications in the context of an emergency refers to transmitting and receiving information without delay and without confusion. There are several ways to transmit information and instructions during an emergency; it is important that all personnel be familiar with whatever devices (e.g., hardware such as walkie-talkies, radios, and CBs) and whatever language(s) (e.g., code words and signs) are used.

21. PHASES OF AN EMERGENCY. There are five phases of an emergency: discovery/notification, identification/ verification, response, resolution, and restoration of normal operations. Preparers should be aware of the phases so that emergency personnel will be able to use all appropriate resources quickly and effectively.

a. **Discovery/notification.** An airport employee may learn of an actual or potential emergency, such as a suspicious package or a fire, from several sources. Sources might include a private citizen, an airport patron, or even a phoned-in or written threat. Regardless of the means of notification, the airport employee who receives the message should transmit as much information as possible to the appropriate person for verification.

b. **Identification/verification.** Identifying and verifying an actual emergency depend on whether the person reporting is known to the person receiving the information. For example, an employee of the airport or a tenant who calls the operations office is much more credible than a stranger. If the tower phones to notify the airport ARFF station of an incident, that incident requires no verification. However, if a bomb threat is phoned in, verification will be needed. A member of security or operations should go to the area where the bomb may be located; if anything seems suspicious or unnatural, the AEP's bomb threat procedures should be implemented. In practice, the actual steps taken by airport operators will depend upon the situation and the way the situation has been reported.

c. **Response.** Once it has been determined that an actual emergency exists, airport operators must initiate the appropriate response. Although they may not have to mobilize all resources, they may have to notify many of the mutual-aid organizations to stand by. The early decisions — some of which are irreversible — usually determine which actions follow. For example, sequences of calls or handoffs of commands usually result from a few early decisions, such as evacuating an aircraft or an airport terminal and calling the fire department. Such early decisions, especially irreversible ones, which narrow the range of possible remedial actions, should be made logically as each item of information comes in. Moreover, the AEP should contain contingency strategies because no single strategy can predict all the possible variables in an actual emergency.

d. **Resolution.** A successful resolution of an emergency depends on a swift, accurate, and coordinated implementation of the critical elements of the AEP: command, control, and communications; the emergency response functional areas; site usage/equipment array; evacuation; services for the uninjured; removal of the deceased; and media relations.

(1) **Command, control, and communications.** *Command, control, and communications* are essential for resolving the emergency. Working from the centrally located command post, the Site Coordinator should coordinate the emergency response functional areas -- ARFF, medical, security, and airport operations -- by establishing a chain of command, assigning tasks, and spelling out procedures to all personnel.

(2) **Emergency response functional areas.** In most emergencies, the first on the scene will be the airport ARFF crews, followed by airport security, medical, and operations personnel. It is vital that those crews carry out their tasks as quickly as possible to gain control of the situation before the media, family, friends, and curiosity seekers arrive. Otherwise, mass confusion could result: phone lines might become tied up; traffic might obstruct emergency access and egress roads, preventing the arrival of mutual aid personnel or the evacuation of victims; and most importantly, the victims might not receive the care they need. Figure 2-1 illustrates the various tasks of each functional area. The AEP should define the activities of these crews.

(i) **Aircraft Rescue and Firefighting (ARFF).** The ARFF's first duty is to open up a route allowing airplane passengers to escape. ARFF crews should prevent fire by using appropriate procedures and control any fires that have already started.

(ii) **Security.** Security's primary task is to control access to the emergency site, to set up traffic control points to enable emergency vehicles to get through without hindrance, and to preserve materials such as cargo and the personal property of victims.

(iii) **Medical.** On-site medical services usually consist of screening (triage) and treating (stabilizing) victims; detailed treatment occurs once the victims reach the hospitals. Transporting and treating those most in need of aid must receive priority over treating and moving the less injured. All victims should be moved quickly, but "worst first" is the rule when there are mass casualties. Therefore, on-site, quick diagnosis and preparation for evacuation are the goals.

(iv) **Airport operations.** Airport operations personnel have several key command, control, and communications functions. The smoothness of the emergency response may depend on how expeditiously they carry out such functions as notifying mutual aid organizations, dealing with the media, and coordinating the airport's efforts with those of the involved airlines.

(3) **Site usage/equipment array.** Equipment should be systematically arranged on an emergency site to facilitate traffic flow. Figure 2-2 is an illustration of an emergency staging area arrangement under *ideal conditions*.

(4) **Victim support.** Injured and uninjured victims must be evacuated and taken care of.

(i) **Evacuation coordination.** Many emergency victims need immediate medical attention, much of it specialized according to the injury each has sustained. Victims should be evacuated as swiftly as possible and dispatched to a medical facility with the appropriate medical personnel and equipment for treating them. AEP planners should establish some means for coordinating air and ground evacuation.

(ii) **Services for the uninjured.** Emergency planners must not overlook the needs of the seemingly uninjured. Even if survivors are physically uninjured, they are likely to experience psychological or emotional stress. In fact, the same likelihood holds for many emergency response personnel. Restricted areas should be set aside in which ambulatory and apparently uninjured survivors can be cared for an aided.

They should be examined by knowledgeable medical personnel because injuries overlooked in the initial excitement may be discovered. In actual emergencies, airlines often take care of passengers who are not noticeably injured.

(5) **Removal of the deceased.** Rescue personnel should coordinate their efforts with the coroner and medical examiner to deal with fatalities. Deceased persons need not and should not be removed from the scene by rescue personnel. Removal of the bodies falls under the direction of the coroner and medical examiner.

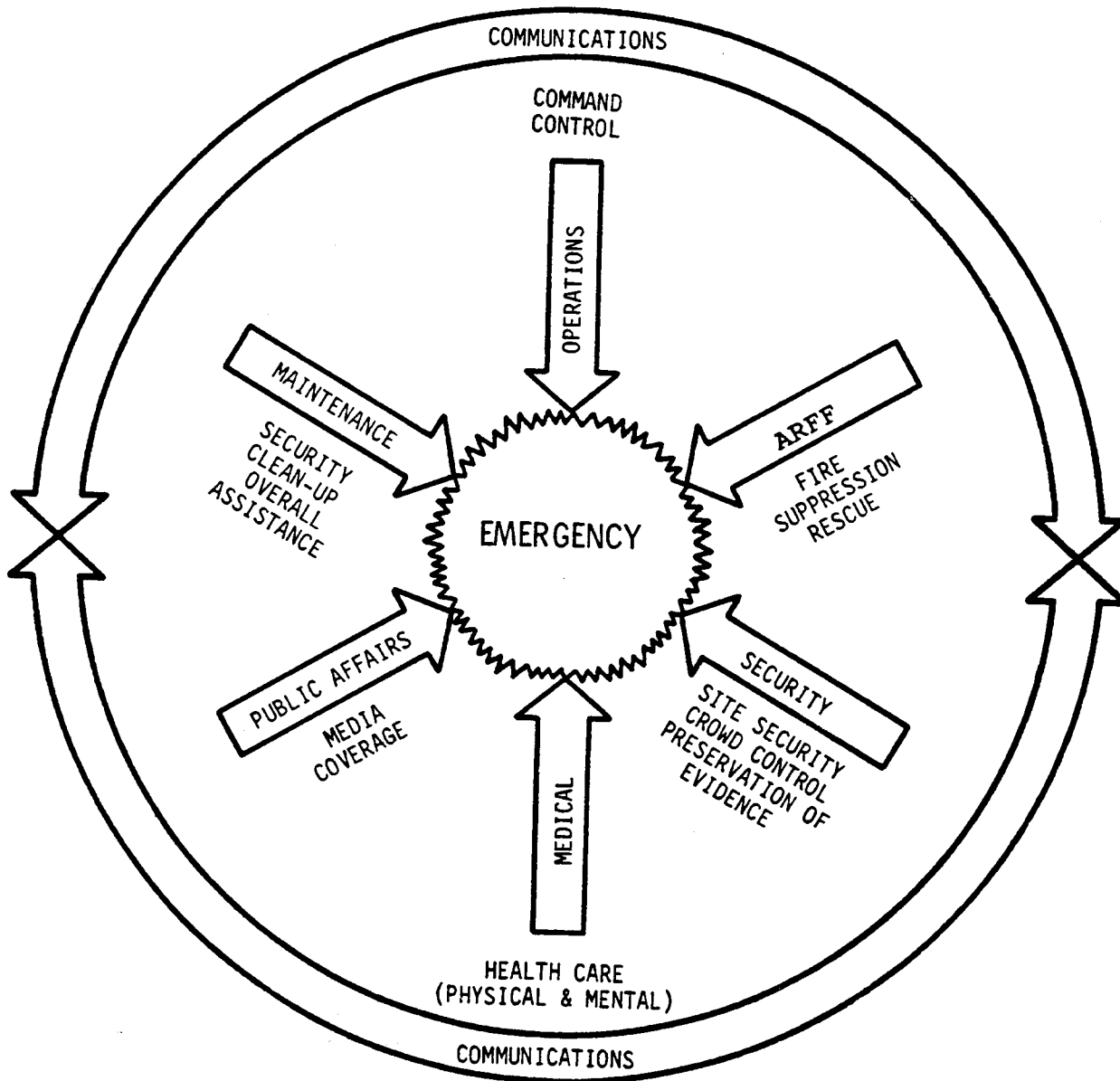


Figure 2-1. Responsibilities of Emergency Response Functional Areas

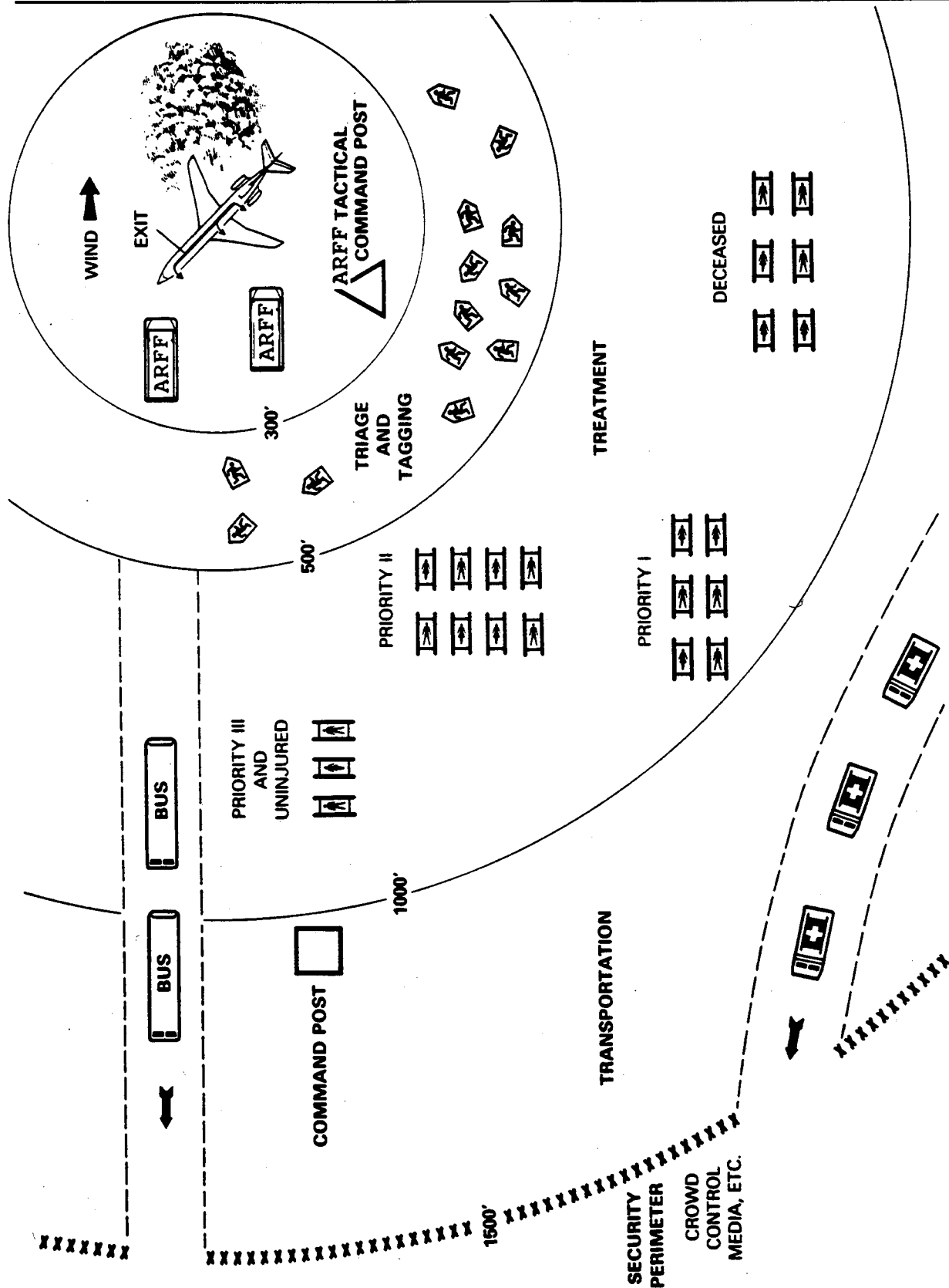


Figure 2-2. Emergency Response Staging Area (Ideal Conditions)

(6) **Media relations.** It is highly likely that airport operators will have to deal with the media during an emergency. Appendix 2 outlines procedures for dealing with the media in a way that enables the emergency response to continue unimpeded.

e. **Restoration of normal operations.** The restoration phase begins after all victims have been evacuated.

(1) **Specific.** Maintenance, airport operations, and security play key roles in restoration of normal operations after an emergency.

(i) **Maintenance.** Takes the action necessary to restore the airport to a safe operating condition.

(ii) **Airport operations.** Determines that the airport is ready to operate safely again, and gives approval to the appropriate airport tenants and personnel for resuming normal operations.

(iii) **Security.** Works closely with the investigative and enforcement authorities and schedules debriefings of witnesses.

(2) **General.** Usually within 12 to 24 hours after the emergency, the National Transportation Safety Board (NTSB) and other investigative authorities will dispatch representatives to the airport to investigate the emergency. *All airport functions* will turn over responsibility to the investigators, follow their directions, and make all resources available to them as required. The NTSB or another agency may ask the airlines to transport the wreckage to a secure area where investigations can proceed without interference.

22. ASSESSING NEEDS. An airport's needs for responding to an emergency depend on several key factors: airport operating characteristics, airport responsibilities, mutual aid, coordination of the AEP with other emergency plans, emergency response services, and equipment. Those factors have a significant impact on the scope of any AEP.

a. **Airport operating characteristics.** Airport operators should determine their airport's needs based on the following operating characteristics:

(1) **Aircraft size.** The most important single indicator of the potential size of an emergency is the largest passenger aircraft served by the airport. Its length serves as an indexing system to determine the number of ARFF vehicles and quantity of fire-extinguishing agents needed to put out a fire effectively. The seating capacity of the plane indicates the level of casualty-handling facilities

that may be needed. Each operator will have to assess need according to past experience.

(2) **Traffic density, use, and schedule.** Certain airports are used more frequently than others. Some may be in operation around-the-clock. Certain airports have a higher density of commercial planes than private planes to use them. Different activities might occur at different hours (e.g., arrival or departure of cargo or international flights). All of the above variables could create particular needs that the airport must be capable of meeting.

(3) **Physical layout.** Certain airports have international terminals or terminals located at a distance from the main terminals. Some airports are spread out over a rather large area, and others are more or less compact. The airport's layout could affect the strategy or nature of the emergency responses it will need.

(4) **Environment.** The surrounding environment can create special needs for an airport. Airport operators should answer questions like the following to identify potential problems, resource requirements, and the level and availability of resources:

(i) Is the airport in or near a city or suburb?

(ii) How close is the airport to large bodies of water?

(iii) How close is the airport to military bases?

(iv) What is the range of weather conditions under which the airport operates?

(v) Is the airport near mountains, marshes, open fields, and/or woods?

b. **Airport responsibilities.** An airport may have responsibilities to the Federal Government and also to the governments of the town, city, county, region, or state in which it lies.

(1) **Local/regional jurisdictions.** Each government that exercises jurisdiction over the airport may impose certain requirements, including several that affect the AEP. Therefore, an airport's AEP should not only reflect the airport's organization and normal chain of command but also meet the requirements of the government(s) to whom the airport is responsible. Airport operators may also be required to notify local/regional government officials when an emergency occurs.

(2) **Notification of U.S. Government agencies.** Airport operators should notify specific gov-

ernment agencies when certain kinds of emergencies occur. Agencies that should be notified are listed below; the nature of the emergency in which they would be involved is in parentheses:

(i) U.S. Department of Energy (DOE) - (hazardous materials) coordinates federal radiological monitoring and assessment.

(ii) Environmental Protection Agency (EPA) - (hazardous materials) In accordance with the Federal Radiological Emergency Response Plan (RERP), continues the activities of the DOE after the initial phases of an emergency.

(iii) Federal Aviation Administration (FAA) - (aircraft-involved) certifies and monitors the practices and procedures of the aviation industry.

(iv) National Transportation Safety Board (NTSB) - (aircraft-involved) investigates aircraft accidents and incidents.

(v) U.S. Customs - (passengers or cargo from foreign countries) ensures the integrity and, where necessary, the segregation of passengers and cargo.

(vi) U.S. Postal Service (USPS) - (mail-involved) ensures the security of the mails, protects postal property, and restores service.

(vii) Federal Bureau of Investigation (FBI) - (hijacking, dignitaries, bomb threats, hostages) has the authority to investigate any alleged or suspected activities that may involve federal criminal offenses.

(viii) U.S. Air Force (USAF) - coordinates federal resources used for Search and Rescue (SAR) in the 48 contiguous states.

(ix) U.S. Army Bomb Squad (Explosive Ordnance Disposal [EOD]) - (bomb threats, explosives) specializes in defusing and disposing of bombs and other explosives.

(x) U.S. Coast Guard (USCG) - (incidents or accidents involving bodies of water) provides surface vessels and aircraft to assist in water rescue operations.

c. Mutual aid. Mutual aid may vary according to the airport's type of ownership. The extent and type of services available at the airport may depend on the source and budget for the airport. Law or regulations sometimes restrict the owner (e.g., a municipality or state authority) from accepting services from other jurisdictions. For instance, a publicly owned airport may have to re-

ceive approval from a council or legislature in order to engage the services of a mutual aid service. A privately owned airport may have to pay for mutual aid, while a publicly owned airport might not. Furthermore, organizations responding to an emergency outside their jurisdictions may not have the same authority that they do in their own (e.g., law enforcement officers).

d. Coordination of AEP with other emergency plans. Airport operators should coordinate their emergency plans with those of the airport's tenants and with those of the airport's surrounding communities. They should make sure that all responding organizations have copies of the AEP. Coordinating and resolving an emergency become much easier if all the emergency response personnel are familiar with the AEP; this way, they will know what their own organization and other response organizations are expected to do. Coordination tends to eliminate the guessing and assumptions that so often confuse and impede response efforts. To achieve coordination, mutual aid agreements should clearly define each organization's availability, chain of command, response procedures, liabilities, and compensation (if any). The agreement should include an explicit statement of its duration and limitations.

e. Emergency response services. Not even the largest certificated airports are completely free of the need for community and government assistance during particular emergencies. A variety of emergency response services may be available to the airport operator, and the local or state Civil Defense office may be able to identify specific people who could be contacted at pertinent agencies. To meet an emergency adequately, every airport should have access to resources in emergency response functional areas such as ARFF, medical, security, operations, and maintenance. Not only is it important for the airport to know exactly what the off-site organizations have to offer but it is also important for those organizations to understand exactly what the airport's needs are. A few such considerations follow:

(1) **ARFF.** Local structural firefighting units can provide both equipment and personnel. Mutual aid personnel bring manpower with special firefighting skills, e.g. interior fire fighting (building and with supplemental training, aircraft) first aid or EMT, hazardous materials, etc. Although structural apparatus normally has limited capability for fighting large flammable liquid fuel fires, they can be very valuable in water supply operations. In addition, they often carry a wide variety of unique

tools and equipment on board, e.g. forced entry, SCBA, lighting, medical supplies, etc. If airport and mutual aid personnel are properly trained to perform the operation, these vehicles can also be adapted rapidly for flammable liquid fuel fire fighting. This is particularly important at small airports with limited ARFF equipment. It is important to note that outside fire units providing ARFF service or support under mutual aid agreements need to be trained in the differences between structural and aircraft fire fighting as well as in the difference in operating their vehicles on city streets as compared with operating on an airport.

(2) **Security.** Local police are needed to perform the function of controlling routes to the airport — at critical intersections, highway exit and entrance ramps, drawbridges, railroad crossings, and tunnels. Controlling those routes will facilitate the movement of emergency vehicles to and from the airport.

(3) **Medical.** On an emergency site, triage-trained personnel, such as emergency medical technicians/paramedics or triage teams from hospitals, are more desirable because of their training and experience in coping with multiple-victim emergencies. Those with traditional medical training will be more valuable at hospitals where they can better apply their one-on-one skills and have full use of their equipment.

f. **Equipment.** Airport operators should determine the kind and amount of equipment their airports will need to meet the range of emergencies that could arise. Much of the equipment can be used for more than one type of emergency, but some are particular to specific types of emergencies. A list and description of emergency facilities and equipment appear in Appendix 3.

23. TAKING INVENTORY OF RESOURCES.

Airport operators should identify, first, the resources — services (labor), equipment and facilities, and visual aids — they will need for responding to an emergency and, second, the potential sources of those resources. They might use Table 2-1 or one like it to help match resources to requirements and to serve both as a checklist of available resources and as a guide to required resources according to type and quantity. (Resources are identified by emergency response functional areas). They might prepare another table to show sources.

a. **Resources in the community.** To resolve emergencies where resources already committed to the airport could not meet requirements, airport operators should search the community in order to

obtain the services that can produce the desired level of protection. The surrounding community may offer significant emergency response resources, both commercial and volunteer. Refer to Figure 1-1 and to Appendix 4 for descriptions and sources.

(1) **Community services, commercial and volunteer.** Ambulance services, communications experts, coroners, drug teams, fire and rescue squads, harbor patrols, hospitals, hotels, media, police, tow service, transportation companies, specialty stores (e.g., hardware and hunting-fishing-camping stores), underwater search and rescue teams, construction companies (heavy equipment and operators), and utilities are, to one degree or another, part of almost every community. In addition, a particularly valuable private organization is the Chemical Transportation Emergency Center (CHEMTREC), which provides assistance in transportation emergencies involving chemicals.

(2) **Volunteer organizations.** Some of the strictly volunteer organizations (with the exception of some paid supervisory staff) described below may be found in surrounding communities. They could contribute to developing an emergency response plan:

(i) **American Radio Relay League** — provides any assistance it can, particularly emergency communication (amateur radio).

(ii) **Civil Air Patrol** — evacuates injured persons by air and flies in life-saving supplies to otherwise inaccessible areas.

(iii) **Civil Defense** — provides assistance available in the surrounding communities.

(iv) **REACT International, Inc.** — organizes citizen two-way radio communications in local emergencies, through volunteer monitoring of the official CB radio emergency channel.

(v) **American Red Cross** — assists with survivor and victim handling and supports emergency workers.

(vi) **Religious Organizations** — minister to acute human needs.

(vii) **Salvation Army** — provides spiritual counseling, assists with the registration and identification of victims, helps medical personnel, and distributes food and clothing.

(viii) **National Organization for Victim Assistance (NOVA)** — provides assistance to accident victims.

b. Government resources. Many government organizations and agencies provide services that can help airport operators by furnishing assistance in emergency plan development. Below is a list of Federal organizations and a brief description of their functions; a detailed description appears in Appendix 4.

(1) **Federal Emergency Management Agency (FEMA)** – is responsible primarily for notifying other federal agencies that should be aware of the emergency and that might serve as focal points for coordinating federal responses nationally.

(2) **Military Assistance to Safety and Traffic (MAST)** – provides military helicopters for use as air ambulances to transport civilian emergency patients.

(3) **National Guard** – helps maintain order, but is under the control of the state governor unless a national emergency is declared.

(4) **National Oceanic and Atmospheric Administration (NOAA)** – among other responsibilities, acquires data on weather; forecasts the weather that may affect the emergency, particularly radiological incidents; disseminates weather and emergency information (e.g., concerning severe thunderstorms, tornadoes, floods, and tsunamis).

Many of the agencies requiring notification, listed in paragraph 6, subparagraph b (2), will also provide valuable assistance in preparing an AEP.

c. Equipment and facilities. Appendix 3 lists specific items for emergency response equipment.

(1) **Accessibility.** In an emergency, equipment must be accessible. In large-scale emergencies, the airport must depend upon outside help; a lot of time may pass before that help arrives, a situation that can be aggravated if equipment must be brought in by the outside personnel. Because airports are a potential site for mass casualties, airport operators may decide to store community disaster supplies at the airport. This permits rapid access to

the supplies by airport personnel and provides storage space for the community.

(2) **Supply kits.** Emergency supply kits for airport use should be portable and their contents listed clearly and visibly. Before the drill, planners should list the contents and locations of the kits. Such lists should include grid maps displaying the airport and its surrounding area; for large airports, at least two grid maps may be necessary: one of the airport proper and another of the airport (in less detail) as well as of its surrounding area. The lists and maps should be distributed as part of the planning sessions for ARFF, medical, and security personnel. Planners should be certain that keys and locks are available and easily identifiable for quick access to equipment.

d. Visual aids. Visual aids are simple reference materials that personnel can use during an emergency. Under the pressure of an actual emergency, any member of a response group may forget instructions or confuse procedures. Thus airport operators should make sure that all emergency response personnel carry visual aids to which they can refer for review of certain procedures and policies. Visual aids should be succinct, easily readable, possibly fluorescent for nighttime emergencies, and small and light enough to be easily portable and accessible. A sample visual aid appears in Appendix 5.

e. Tenants. Airport tenants can often enhance an airport's emergency response capability by providing assistance with:

(1) **Equipment.** Construction equipment, aircraft jacks, trucks, and baggage carts are often of great use on emergency sites. Fixed base operators (FBO) and airlines are usually a good source of such equipment.

(2) **Victim support.**

(i) **Tenant airlines.** Victim support services are normally the responsibility of the airline(s) involved.

(ii) **Non-tenant airlines.** The AEP should prepare the airport for an emergency involving a chartered, private, military, or other non-tenant aircraft. Non-tenants have no facilities or service personnel located on the airfield.

24. PLAN BASICS. Emergency planning may be as varied as airports themselves are. Nevertheless, it is crucial to establish in detail the elements of command, control, communications, procedure, and mutual aid. Airport operators should consult regulations, standard operating procedures for operating personnel, other airports, and other emergency plans for guidance.

a. Command. Airport operators should establish a chain of command that shows how every responsible participant fits into the overall response strategy.

(1) **Chain of command.** A chain of command or logical order of succession should be established. It should be based on the following considerations:

(i) The expected order of arrival of personnel at the scene, and

(ii) The responsibilities of the responding organization that provides the personnel to assume command.

(2) **Command Post.** The Command Post is the center of operations for resolving the emergency. It should be set up near the emergency site. It can be a vehicle, a trailer, or a booth, depending on where the emergency is and what facilities the airport has available. An instant command post that is equipped and ready to be set up near the emergency site would be highly desirable.

b. Control. The Site Coordinator has overall control of the entire emergency response operation. Each emergency response functional area has its own coordinator.

(1) **The Site Coordinator.** The AEP should designate a single individual as the Site Coordinator.

(i) **Responsibilities.** The Site Coordinator is responsible for evaluating the situation, implementing the AEP, ensuring that responsibilities of each functional area in the emergency response are carried out, and integrating rescue resources on-site.

(ii) **Selection.** The Site Coordinator should be chosen on the basis of his or her familiarity and experience with the AEP, the airport, emergency responses, and equipment.

(iii) **Visibility.** The Site Coordinator should be highly visible and identifiable by the outfit he or she wears. Sometimes, because the Site Coordinator and the coordinators for the other functional areas are well known to each other, AEP planners overlook the need for providing distinctive vests, hats, or other markings that describe a person's role to those who are not familiar with the airport or its AEP. A typical identification scheme appears in Appendix 6.

(iv) **Location.** The Site Coordinator is properly stationed at the Command Post.

(2) **Emergency response functional area coordinators.** The AEP should designate a coordinator for each emergency response functional area at the emergency site -- ARFF, security, medical, and airport operations.

(i) **Responsibilities.** Each coordinator is responsible for overseeing the emergency response operation in his or her particular functional area.

(ii) **Selection.** The coordinators should be chosen on the basis of their familiarity and experience with the AEP, the airport, emergency responses in their particular functional areas, and equipment. Whether or not the ARFF and medical coordinators are on- or off-site people may depend on whether the airport has its own ARFF and medical units and whether the emergency is on- or off-site.

(iii) **Visibility.** Coordinators should be highly visible and identifiable by the outfits they wear.

(iv) **Location.** Coordinators should station themselves in a location where they can obtain the broadest view of the emergency and still be most accessible to the personnel working under them. It is crucial that they be able to maintain continuous contact with the Site Coordinator and their personnel.

(3) **Site array.** A careful deployment of vehicles and equipment will facilitate the efforts of the Site Coordinator, the emergency response functional area coordinators, and other emergency response personnel. In general, the less congested a site, the easier it is for rescue personnel to do their jobs. (See Figure 2-2).

(i) **Command Post.** The Command Post is the key element of site array. Once a post-crash fire is extinguished, rescue coordination is the important consideration, and so the Command Post becomes the center of attention.

(A) **Information center.** For the benefit of personnel who will have to use the Command Post, airport operators should post inventory lists on the face of drawers and cabinets so that personnel can locate needed equipment and supplies immediately.

(B) **Shelter.** In the event of inclement weather, the Command Post, if a vehicle, should itself be provisioned as a shelter.

(C) **Visibility.** The Command Post, whether a vehicle or a booth, should be marked conspicuously and equipped with appropriate communications equipment. *It must be visible and accessible.* If it is a vehicle, it may seem to be well-marked when it sits alone in the airport parking lot but may not be as easy to pick out when it is mixed in with dozens of other emergency vehicles that are all equipped with flashing lights and radios.

(D) **Location.** The Command Post should be located to afford a good view of the entire site and to be near, but not in, the areas designated for medical, security, and ARFF personnel and vehicles. If the Command Post lies too far from its resources or the site, response personnel will bypass it, making it the most isolated and ill-informed coordinating point on the site.

(E) **Equipment.** Where possible, equipment and storage areas should be color-coded in a commonly accepted system known to all local emergency units.

(iii) **ARFF and medical vehicles.** ARFF vehicles should be located together, far enough from the wreckage to be out of the way yet near enough to permit access to equipment stored on board them. Medical vehicles are generally useful on-site; thus they can be located near the medical/triage area, with the exception of ambulances used for transportation of victims.

(iv) **Ambulances.** Ambulances should have unimpeded access to the medical area via an open route that does not jam up if one ambulance stops. The best system permits ambulances to load and leave without interfering with each other or being obstructed by other equipment.

c. **Communications.** Two-way communication is necessary for coordinated responses. From the most sophisticated electronics to the simplest of hand signals, every aspect of airport operation uses some form of communication. Some redundancy in communication will result from the use of direct telephone linkages and assigned multiple emergen-

cy radio frequencies. Such redundancy is perfectly acceptable.

(1) **The Site Coordinator.** The Site Coordinator should have a portable battery-powered radio capable of contacting individual organizations within the airport or in the surrounding community.

(2) **Emergency response functional area coordinators.** All area coordinators should have at their disposal one or more means of communication -- e.g., radios, runners, and portable voice amplifiers. A clearly marked area should be available to house communications, equipment, and maps and to serve as a base of operations for area coordinators.

d. Developing procedures.

(1) **Considerations.** Airport and community response personnel must know in advance what the procedures are and who is responsible for:

(i) Determine who has overall command and under what circumstances,

(ii) Determining the specific type, location, and severity of the emergency, and, therefore, which emergency procedure is applicable,

(iii) Notifying appropriate emergency response organizations, and by what means,

(iv) Setting up local emergency control posts,

(v) Dividing command responsibility among the coordinators for the functional areas of ARFF, medical, security, operations, and so forth,

(vi) Initiating and carrying out procedures according to the functional areas,

(vii) Keeping the media and public informed, and

(viii) Deciding that the emergency no longer exists, the emergency procedures are no longer applicable, and command responsibility should revert to airport personnel performing standard operations, maintenance, and security functions.

(2) **Procedure development checklist.** A checklist may help assure consistency in the preparation and execution of procedures. By answering questions similar to those listed below and others that may be raised, the individual(s) responsible for developing the plan will have a better understand-

ing of what will happen during an emergency. The questions are:

- (i) Who is first responsible for reporting an incident?
- (ii) How will an incident be reported?
- (iii) Who relays the initial report to Airport Operations ?
- (iv) What is the nature, severity, and location of the incident as initially reported?
- (v) How is the initial report verified or refined?
- (vi) Who decides that the incident is in fact an emergency? Who decides what category of emergency it is?
- (vii) Who decides which standard emergency procedure or combination of procedures is best?
- (viii) What actions should be undertaken?
- (ix) How should those initial actions be modified as verified reports of the nature, severity, and location of the incident come in?
- (x) If there is fire or smoke, who decides that the fire department should be called? What criteria will be used to decide?
- (xi) If it seems necessary to interrupt airport operations, who decides to do so?
- (xii) If there are injuries or fatalities, who decides what kind of emergency medical response is required? What criteria are used to make the decision?
- (xiii) If the evacuation of a terminal or aircraft becomes necessary, who decides to evacuate? What criteria are used to make the decision?
- (xiv) Who decides the best procedure, route, and timing for evacuation? What criteria are used to make the decision?
- (xv) Who decides if special services are needed (e.g., bomb squad, coroner, or extrication equipment)? What criteria are used to make the decision? How are the requirements communicated to the appropriate agency?
- (xvi) As various groups of emergency response personnel arrive, how is the chain of command maintained?
- (xvii) Once the initial decisions about assistance or evacuation are made, how are proce-

dures adapted to adjust to any changes in the chain of command?

(xviii) Have arrangements been made for access, egress, availability of equipment, visibility, communication, and so on?

(xix) Have provisions been made to maintain services on unaffected parts of the airport and to supply alternative service in the affected areas?

(xx) Who decides when normal service can be resumed at the emergency site? What criteria are used to make the decision?

(3) ARFF procedures.

(i) **Escape route.** As stated earlier, ARFF's first duty is to open up an escape route for airplane passengers.

(ii) **Evacuation.** If resources permit, ARFF crews may assist more actively in evacuation. Generally, however, they will not have enough time to enter an aircraft and remove non-ambulatory passengers. The decision whether or not to enter should be made by the senior fire officer on the scene in accordance with policy set forth in the AEP.

(4) Security procedures.

(i) **Controlling access.** Security should cordon off the site, screen personnel who are entering, allowing only properly identified emergency personnel on the scene, and restraining onlookers from interfering with rescue efforts. Different types of non-response, off-site personnel may be cleared for specific locations; for example, ministers and mental health workers might be directed or escorted to the holding area for survivors or to the emergency site itself, depending on the numbers of casualties and their severity; media representatives may be taken to a briefing area located away from survivors and then, after briefing, escorted to the site. Some arrangements depend on the number of security personnel available.

(ii) **Traffic control.** The ability of security to control traffic around the airport may mean the difference between success and failure in getting emergency vehicles on and off the airport. Traffic control is also important for arranging the parking and flow of vehicles at the emergency site; security personnel may be needed to log vehicles and victims off the site on their way to local hospitals.

(iii) **Preservation of materials.** It is the responsibility of security to preserve evidence for investigators, protect the personal property of the injured or dead, and protect cargo.

(5) Medical procedures.

(i) **Screening.** It is critical that medical personnel screen *all* victims as rapidly as possible. The triage medical personnel should not leave the triage area. They are going to be very busy during the initial victim recovery at a disaster.

(ii) **Treatment.** Medical personnel will have to make quick yet difficult decisions about who receives immediate treatment and who has to wait. Selectivity runs against human nature and traditional medical training, where the orientation is to treat one patient at a time as each is encountered. Nevertheless, medical personnel should not treat victims just because they encounter them; they should seek out those most seriously injured. For moving victims out of danger or into areas for treatment, backboards are preferable to stretchers. The backboard is narrower; thus it is easier to manipulate in congested areas such as aircraft cabins. In addition, one of the most prevalent injuries in aircraft emergencies is the back injury; using backboards helps reduce the possibility of aggravating injuries that occurred in the emergency.

(iii) **Services for burn victims.** Special attention should be given to coordinating rescue efforts when there is a fire. Persons who have been burned and who are still alive need immediate attention. Try to identify a hospital with a burn facility and establish a means of transporting burn victims to the facility.

(iv) **Evacuation coordination.** Some airports located in areas with several hospitals, ambulance services, and medical evacuation helicopter services should consider providing maps to transporters (i.e., drivers and pilots). Maps reduce or eliminate confusion about destinations and routings. Sometimes burn patients are transferred to orthopedic hospitals or transporters are unable to locate hospitals; such errors can occur if transporters are unfamiliar with patient needs and if they have to take victims to hospitals that do not usually service the airport. One way to reduce error is to print directions from the airport to local emergency facilities on file cards. The cards can be distributed to transporters according to destination.

(v) **Services for the uninjured.** Psychological stress begins to take its heaviest toll on survivors and rescue workers once an emergency is over. Two valuable initial steps, then, are to group

uninjured survivors in a quiet, restricted area and to assign medical personnel who are skilled at mental health services to attend them. This is the responsibility of the airline involved in the accident.

(vi) **Removal of the deceased.** The coroner and medical examiner are responsible for directing the removal of the dead. In order to facilitate subsequent efforts to identify bodies, removal must be organized and orderly and any materials on or around the body of a deceased person should be collected. For example, certain emergencies such as fires can damage a body beyond recognition, and the medical examiner may have great difficulty in making identifications. Very often, when bodies are not removed under the coroner's or examiner's supervision, items such as wallets, jewelry, keys, and teeth, all of which can help identify bodies, are lost or left at the emergency site.

(6) Airport operations procedures.

(i) **Communications.** Airport operations personnel should notify the mutual-aid organizations providing additional emergency support, establish, verify, and maintain communications with emergency personnel, off-site emergency resources, and airlines, and inform the media of the status of the emergency. The media's cooperation might be enlisted for controlling spectators; such cooperation might allow time for rescue personnel to reach their duty stations unimpeded.

(ii) **Coordination.** Airport operations personnel should coordinate the airport's efforts with those of the involved airlines, direct the maintenance personnel to obtain and use any special equipment that may be helpful, establish a morgue, notify the appropriate investigative agencies, and in coordination with the airline, inform family and friends of the location of the injured, help bereaved families, make transportation arrangements for the dead, and arrange for the families to receive any remaining personal effects.

(iii) **Services for the uninjured.** Services for the uninjured should be implemented as soon as possible. The airlines and a variety of organizations might assist in providing such services. Under the overall direction of the airport management, response personnel might:

(A) Reserve an area in the terminal or other facilities to make the uninjured comfortable and provide telephone service and other accommodations, if feasible,

(B) Assist uninjured persons at the accident site in assembling in one area away from the aircraft,

(C) Arrange transportation for them from the accident site to a safe area,

(D) Assure their security whether at the accident site or wherever they are assembled,

(E) Assure their privacy during the period of adjustment following such a traumatic experience,

(F) Furnish blankets until baggage or personal clothing can be retrieved from the aircraft,

(G) Assist them in filling out clearance forms or required processing, preferably in the area they are occupying,

(H) Obtain food or beverages, including baby food, especially if there is a long delay in processing passengers,

(I) Assist them by making further travel arrangements and motel or hotel accommodations, and

(J) Provide medical personnel to observe and check their mental and physical conditions.

e. Mutual aid agreements. Many emergencies require or involve responses from off-site organizations, such as fire departments, emergency medical services, and police departments. To maximize the effectiveness of the AEP (and minimize the effects of the emergency), airport operators should coordinate the responses of all the involved organizations. Coordination is achieved through mutual aid agreements, which spell out the responsibilities of the respective parties. If the agreements are put into writing, there is less chance of a later misunderstanding. During actual emergencies, coordination would be achieved by following procedures established in the mutual aid agreement(s). If a specific emergency requires additional coordination, the person(s) in charge should adopt the previous chain of command documented in existing procedures and agreements. While negotiating a mutual aid agreement, representatives from both parties should begin to develop detailed procedures for responding to various emergencies. Appendix 8 contains samples of mutual aid agreements. Such agreements should contain as a minimum:

(1) Names of participating organizations, signatures of officials, addresses, phone numbers,

and radio frequencies and call signs (assigned numbers or codes) for all times of day,

(2) A statement of how the document was developed, reviewed, and approved for use,

(3) A statement of how and when revisions will be reviewed, approved, and implemented,

(4) A detailed description of the mutual aid to be provided — its type and level, its duration, and the conditions under which it will be provided (including any financial responsibilities),

(5) A statement of how long the agreement is in effect,

(6) The date the agreement becomes effective, and

(7) A "definition" section for special terms peculiar to the document and for terminologies of the airport and of the other participating organizations — e.g., jargon, abbreviations, and communication codes. It is essential that personnel from each organization completely understand everyone else's terminology.

25. PREPARING THE PLAN.

a. Introduction. The airport emergency plan is just that — a plan. It provides a basis for taking specific actions according to individual emergencies as they occur. It cannot replace the knowledge and ability that experienced on-scene coordinators have for adapting to the emergency.

b. Organizing the plan.

(1) AEP preparers must remember that if an emergency occurs, there probably will not be time for anyone to consult the plan for details or procedures. Yet a situation may develop where the only recourse one has is to consult the AEP. Therefore, the document should be organized for quick reference to all the information it contains.

(2) Airport operators should organize their plans to suit the airport's particular needs. Table 2-2, which may be used as a guide, shows a sample Table of Contents for an AEP.

c. Physical appearance of the document. Many airports find it very helpful to use a three-ring binder to hold the master and reference copies distributed to the coordinators and their deputies. Index dividers and color coding of sections help to facilitate the document's use.

d. Writing the plan. The AEP provides guidelines for an airport and its surrounding community, enabling them to respond effectively to

emergencies. Planning formalizes jurisdictional boundaries, interagency chain of command, and communication and coordination procedures. It is important that airport operators and others who prepare an AEP always keep the concepts of *command, control, and communications* in the forefront of their thoughts. They should also try to visualize particular emergencies in terms of scenes, events, and actions viewed simultaneously throughout the airport. However, the plan should be written as

though the actions of any responding individual could be performed *without* that individual knowing what else is going on around him or her. It should be kept in mind that some actions must occur in sequence while other actions may be performed concurrently. Each plan should reflect the particular needs of the airport and its surrounding community.

26.-29. RESERVED.

Table 2-2. Airport Emergency Plan Sample Table of Contents

- I. Emergency Phone Numbers
- II. General
 - A. Purpose
 - B. Participating agencies
- III. Emergency Organization Responsibilities
 - A. Airport
 - B. Federal agencies
 - C. State agencies
 - D. County agencies
 - E. Private agencies
- IV. Types and Levels of Emergencies
 - A. Aircraft Incidents or Accidents
 - B. Bomb Incidents
 - C. Structural Fires
 - D. Natural Disasters
 - E. Radiological Hazardous Materials
 - F. Sabotage and Hijacking
 - G. Power Failures
 - H. Water Rescue
- V. Response Procedures (list SOPs for each entry in IV)
 - A. Chain of Command, Control, and Communications
 - B. Responsibility Checklist
- VI. Crowd Control
- VII. Medical Services
 - A. Care of injured
 - B. Care for uninjured
 - C. Trauma care for rescue workers
 - D. Morgue
- VIII. Mutual Aid Agreements
- IX. Control Tower/Flight Service Station Responsibility and Operations
- X. Emergency Alarm Communications
 - A. Crash phone
 - B. State, County, Federal Networks
 - C. Private Network
- XI. Removal of Disabled Aircraft
- XII. Training Sessions
- XIII. Public Information
- XIV. Appendices (as needed)

CHAPTER 3. TESTING THE PLAN

30. WHY TEST THE PLAN.

a. Introduction. The AEP provides the framework that enables airport and community ARFF, security, medical, and other resources to join in an effective, coordinated response to airport emergencies. By using any of several types of airport emergency drills, airport operators and community emergency resource managers can, first, produce an integrated emergency plan that designs a response based upon need and emergency location and, second, practice the procedures and coordination needed to accomplish an effective emergency response in minimum time. In addition, airport operators cannot truly have confidence in the airport's AEP until they study it, revise it, study it again, and test it. Testing is crucial for determining where serious gaps may exist in the plan. For example, one or more individuals involved may have misconceptions or misunderstandings about it; some of the procedures that seem workable on paper may not work in practice; the written estimates of time or distance or available resources may be sufficiently inaccurate to cause problems. Testing the AEP may afford emergency response personnel from the airport an opportunity to get to know each other and to know how other services operate. It may provide emergency response personnel from outside the airport an opportunity to meet airport personnel and to familiarize themselves with airport facilities, resources, traffic patterns, and identifiable hazard areas. Testing the AEP at twilight would afford emergency response personnel an opportunity to work under dark and light conditions.

b. Types of airport emergency drills. There are three major categories of emergency drills. Depending on local needs of the airport operator and/or the community, any of these drills can help improve emergency response.

(1) Tabletop exercises. The tabletop exercise can be both a test of the integration and capability of emergency response resources and a tool for planning and critiquing various responses before trying them out in the field.

(i) Components. The tabletop exercise is the simplest type of drill to stage, since it requires only a meeting room, chalkboards or notepaper, and knowledgeable managers from the appropriate airport and community emergency response organizations. In such a drill, emergency resource managers react to an imaginary airport emergency by de-

scribing the actions that each response resource would take, by estimating the amounts of time, equipment, and travel that each would need, and by predicting the personnel and equipment problems that each would face. The verbal tabletop exercise quickly reveals several types of problems: for example, conflicts of functional area, lack of means of communication, lack of equipment, vague procedural descriptions, confusing jargon or terminology, and procedural omissions.

(ii) Goal. The goal of the tabletop exercise is to learn the limitations and capabilities of each emergency response resource. It can give the airport operator direction either in improving each resource's capability or in finding another resource to make up for any deficiencies. Typically, the tabletop exercise results in an increased appreciation of the need for coordination of emergency response resources and of the need for revising the AEP. For example, a tabletop exercise is likely to reveal that off-site medical personnel do not have keys to airport medical storage areas or that lighting during nighttime emergencies is inadequate.

(2) Partial drills. Partial drills are actual field tests of parts of the AEP.

(i) Benefits. There are several reasons for using partial drills. First, they can be conducted more often than full-scale drills since they use fewer personnel and limit the involvement of emergency response resources. Second, they are economical because of their limited scope. Third, they provide an easy way to practice complex skills or coordination tasks and to experiment with new techniques.

(ii) Applications. A partial drill may focus on a single aspect of the AEP such as communications. For example, a partial drill might require that all the involved organizations practice using their radios and assigned frequencies periodically. Or it might require that only one functional area such as the medical or security network do so. It can thus enable personnel to become familiar with the actual field operations of radios and the attendant problems; those who would not normally use radios — doctors, nurses, and volunteer emergency personnel — might find it especially helpful.

(iii) Types. The basic types of partial drills are Vertical and Horizontal. Vertical drills test the responses of emergency resources — i.e.,

airport ARFF, airport tenants, local medical resources, county or regional emergency coordinating organizations, Air Traffic Control (tower or Flight Service Station), airport security, local police/highway patrol, and so on -- in a specific functional area: in other words, a partial drill might test each resource's capability in the functional area of ARFF. Horizontal drills test a given resource's capability in each emergency response functional area -- ARFF, medical, security, and airport operations. (See Table 3-1). Airport operators need not choose only a Vertical or only a Horizontal drill; they may find it more valuable to select combinations that test, for example, the cooperation of airport and off-airport security/police in controlling access to the airport. One common practice among airport operators and their communities is to conduct a series of partial drills for each of the resources throughout the year. With practice, each resource refines its response. The culmination of the partial drills might be a full-scale drill that tests the coordination of the entire plan and all the involved resources.

(3) **Full-scale drills.** The full-scale drill is a total application of the airport and community emergency response resources to an airport emergency such as the crash of a transport aircraft. The full-scale drill requires careful advance planning and usually several months of coordinating meetings. The drill uses all resources and requires reaction from the equipment and personnel that would normally be available if the drill were an actual emergency.

31. WHAT SHOULD BE TESTED. The AEP usually covers a variety of responses to a variety of emergencies under a variety of conditions. Drill planners may combine any of the variables to test the effectiveness of the plan and the capabilities of response personnel.

a. Goals. The first and most basic step in conducting an airport emergency drill is to decide exactly what should be achieved by expending the time and effort of airport and community emergency response planners and workers. Funds and personnel are often difficult to obtain, so it is prudent for management to make plans to accomplish specific goals.

(1) **Selecting a goal.** There are numerous goals that can be set for a drill. For example, it may be desirable to hold a drill at night to test the reactions of response personnel under nighttime conditions. Similarly, it may be desirable to test the ability of local emergency response teams to react

to the discovery of hazardous materials in the cargo of an aircraft.

(2) **Setting limits on goals.** It is likely that more than one goal could be accomplished during a drill. The pitfall in combining several goals is that too many may be set and too few achieved. As part of the goal-setting effort, planners should limit the scope of the problems that will be explored; otherwise, they run the risk of confusing and frustrating response personnel. Confusion and frustration may be the outcomes of actual emergencies, but in a training situation such as a drill, confusion and frustration add up to a negative learning experience. This represents a loss for emergency planners and may decrease the ability of the community to respond in real emergencies.

(3) **Assessing results.** Once the drill is over, it should be possible to look back and see specific skills that were learned, new environmental conditions that were explored, communications systems that were tried out, additional mutual aid units that were integrated into the emergency plan, new equipment that was used, or other benefits and problems.

b. Type of drill. Once emergency response planners have set the goals that they hope to achieve through an emergency drill, the next decision concerns the type of drill. In making this decision, planners should consider the resources that are required to achieve the goals, the time available in which to organize the drill, and the available funds and personnel that can be devoted to the drill. Consultation between airport and community planners should determine, early in the drill-planning process, the limitations that will apply.

c. Scale. Proficiency of the ARFF crew may be a goal; thus a monthly fire drill might be realistic, and if mutual aid fire units want to learn about airport ARFF, some of the monthly drills might include them; this represents specific use of the partial drill. On a larger scale, a local hospital may need to conduct a drill that tests its ability to respond to a community disaster as part of its recertification requirements. In that case, all community emergency resources may be interested in cooperating with airport drill planners in testing the response capability not only of the hospital but also of the services and emergency response functional areas. A full-scale drill would be the choice, but the scale of the drill might be trimmed if ambulances were not available; if a county emergency communications network were out of service because of equipment modifications, or if volunteers to play the part of "victims" were not available.

Table 3-1. Emergency Planning Resources - Functional Areas

EMERGENCY PLANNING RESOURCES	ARFF	MEDICAL	SECURITY	AIRPORT OPERATIONS	COMMAND & CONTROL	COMMUN- ICATION
Airport ARFF Mutual Aid						
Airport Medical Hospitals Mutual Aid						
Airport Security Police/Sheriff Highway Patrol						
Command Post Coordinators						
Civil Defense						
FAA, NTSB, etc.						
Airport Tenants						

d. **Scenario.** After the goals and scale of a drill are set, airport planners need to develop a scenario. A sample scenario is presented in Appendix 8.

(1) **Purpose.** The purpose of the scenario is to provide a realistic set of events to which emergency response personnel can react. Included in the scenario are such basic details as:

- (i) time of emergency,
- (ii) type of involved aircraft,
- (iii) location of the emergency,
- (iv) number of injuries,
- (v) class and type of injuries,
- (vi) cargo,
- (vii) environmental conditions, such as difficult terrain (e.g., an accident in water) and degree of darkness, and
- (viii) complicating factors, such as limited communications capability or foreign diplomats on board aircraft, depending on the purpose(s) and complexity of the drill.

(2) **Assistance in developing the scenario.** Although airport personnel usually are responsible for developing drill scenarios, they may need expert assistance in drafting specific details. Airport expertise may be limited to airfield operations rather than to aircraft operations, so it might save time if a flight operations representative from airline management drafted details involving the aircraft. Similarly, control tower representatives could furnish details of Air Traffic Control (ATC) communications. Otherwise, airport personnel might spend time learning new details rather than using their own expertise. Planners should remember that the intent of the scenario is to provide a framework for planning. The scenario may be entertaining to observers, but providing a full-blown script of theatrical quality is not a goal of the drill. Once the first details of a scenario are enacted, emergency response personnel will be involved in the simulated emergency and are not likely to appreciate theatrical details such as the authenticity of ATC conversations. It may be adequate to say that an aircraft has crashed in a certain location instead of detailing the reason for the crash.

(3) **Distribution.** Once a plausible scenario has been developed, planners will have a common base of information to use in subsequent planning sessions. If surprise application of the AEP is one of the goals of the drill, however, only those in-

involved in staging it — e.g., medical personnel who will prepare makeup (mouflage) for “victims” and personnel who may have to prepare the “emergency” site — should receive a copy of the scenario. If operators discuss the scenario or reveal information about it to response personnel, they risk reducing the impact of surprise.

e. **Hazard control.** Intense activity characterizes full-scale or partial drills: moving machinery, unfamiliarity on the part of personnel, and pressure to perform. If not managed carefully, the drill can itself cause accidents. Airport emergency planners should *simulate and practice* emergencies, not create them. Consequently, plans for emergency drills should cover potential hazards and their control. Two of the most common are:

(1) **Airfield/runway access.** During a drill and often during actual emergencies, the airport continues to provide air service. Vehicles and personnel involved in a drill must not intrude on the business end of the airport, the runways, and taxiways. Normally, the airport is protected by security fences and monitored by a control tower. During a drill, people will converge on the simulated emergency site to perform rescue services, cover the drill for the press, or simulate victims. Many of these people will be unfamiliar with aircraft operations and could easily end up in the way of aircraft. Accidents may then result. Planners can take several preventive actions:

- (i) Restrict access to the airfield,
- (ii) Define precise checkpoints where airport personnel can log vehicles onto the field,
- (iii) Brief personnel on desired routes to the site,
- (iv) Set up a system for traffic flow that will separate aircraft from people in the drill, and
- (v) Assign security to watch out for personnel and vehicles that are getting too close to hazard areas.

See Appendix 9, which describes major airfield hazards and safety precautions.

(2) **Injuries.** Personal injuries may occur during emergency drills because of the combination of people and moving equipment. “Victims” carried on backboards may fall off; trucks or ambulances may collide or strike people; operating equipment may malfunction and injure operators. In the commotion, injuries can be overlooked or go undetected, for vivid makeup can make it difficult to tell whether an injury is simulated or genu-

ine. Nor can cries of pain or victim protests be counted on to alert medical personnel; "victims" who have been briefed to scream realistically and demand immediate medical attention usually play their roles aggressively. Therefore, planners should brief drill participants about the possibility of genuine injuries and provide an easily remembered and understood "code word" signifying that one has a real injury and needs immediate attention. Everyone must know exactly what the code word is and what it means *before the drill begins*.

f. Public awareness/notification. Airport emergencies are highly visible events that are of great interest to the public, as are airport emergency drills. To prevent alarm, airport operators should notify the community in advance that a drill will be in progress.

g. Media awareness/notification. Planners should inform the local media of the upcoming drill and include them in the preparation. Drills can provide an opportunity for establishing a productive relationship with the media, a preferable state of affairs because the airport depends on the media for educating the local community about the airport and its operations. Appendix 2 contains guidelines for dealing with the media and a sample press release.

(1) Briefing the media. As part of the final preparation for a drill, planners should include a media briefing that summarizes the planning to date, the drill scenario, and the arrangements for media personnel. An information packet is a useful backup for the oral briefing and might include such items as maps, the scenario, and a press release describing the upcoming drill and its goals; the packet reduces the likelihood of reporting errors.

(2) Informing the public. Notifying the media partly satisfies the need to inform the public; using an organized, structured method for apprising the media of the drill saves time and enables planners to convey accurate information to the public; it is preferable to holding an impromptu press conference to field questions from reporters who are not fully informed of the reason for holding drills and who generally are not familiar with aircraft or airports. It would be highly desirable to have someone other than the key leaders handle the press. A person from the airport that represents fire, police, security, operations, etc.

(3) Testing a system for dealing with the media. During an emergency, the media will very actively seek information, so drills are a good opportunity for setting up and testing a system for

dealing with the media that will meet their need for information and allow rescuers to carry out essential services. It is much better to test and decide on procedures for identifying the media, choosing briefing locations, and setting limits to airport access during a drill rather than attempting to solve press problems during an actual emergency. Consideration should be given to allow the media to select a representative from each media (TV, newspaper, radio, etc.) and have that group allowed closer to the scene with them required to share all information.

h. Moulage. Full-scale drills generally are significant attempts to simulate actual emergencies. The art of moulage enhances realism and helps rescue and medical personnel identify and treat "injured" survivors.

(1) Value. Moulage is a valuable asset to emergency response drills. It is the use of makeup on "victims" to make their injuries and wounds appear utterly real. Not only can airport rescue personnel benefit from simulated reality, but local hospitals and mobile medical units can also use moulage "victims" to test their own diagnostic training and plans. Moulage helps prepare rescue personnel mentally for encountering the reality of genuine injuries in an actual emergency.

(2) Preparations. During the early planning stages of a drill, planners should contact a source of moulage preparation. Local hospitals, military units, and theatrical groups may have personnel trained in moulage preparations. Planners will need to know the numbers of "victims" that a moulage team can prepare as well as the amount of time that the team will need to prepare the makeup. This will affect the schedule of events on the day of the drill.

(3) Selection and preparation of "victims". Dead victims may be simulated by volunteers or by dummies. Although volunteers may suffer discomfort lying on the ground exposed to sun, wind, or rain, they are preferable to dummies because after the drill, they can report on how well the emergency responders handled them. Dummies may be used to simulate a more realistic emergency by being placed in locations that are difficult to reach by rescuers, such as high tree branches, landscape ponds, or the middle of steep inclines. Dummies might be made from:

(i) Old store mannequins dressed with old clothing, or

(ii) Styrofoam wig stands (Shirts and blouses are stuffed with styrofoam packing material "popcorn", sewn to slacks the fronts and cuffs should be sewn tight beforehand, and then attached to the stand's "head").

i. **Personnel.** It is important to determine the number of personnel and where they will come from. In the case of the tabletop exercise, personnel needs are simple, because only emergency response managers from the various airport and community emergency response organizations will participate. For partial drills, the needs may be greater, but the number of personnel is still limited and easier to organize than for the full-scale drill. In the partial drill, participation may be limited to a single shift of ARFF personnel, airport and county communications technicians, or airport and local security personnel; for this level of drill, the personnel are available because they are already at the airport. In full-scale drills, on the other hand, off-site personnel may be used. Further, since full-scale drills might not be held during normal working hours or on normal work days, planners may have trouble finding people willing to participate, either with or without pay. To meet the personnel needs, planners should consider two sources:

(1) **Compensated/full-time personnel.** These personnel are full-time employees of the airport, county, state, airlines, hospitals, FAA, or other concerned parties who would respond to an emergency. For these groups, funding and scheduling are the chief problems, so advance coordination must take place to ensure that they are available.

(2) **Volunteers.** Most airports lack large staffs of emergency personnel, as do many local jurisdictions, so it usually will be necessary to recruit off-site volunteers to participate in the drill.

(i) **Organizations.** Volunteer organizations such as firefighters, civil defense workers, religious organizations, the Red Cross, and the National Guard, may be important elements of airport, city, county, or regional emergency planning and drills. Obtaining the services of these organizations for a drill requires advance planning, because they do not have large staffs available "on demand." While these organizations may respond to actual emergencies, their participation in drills may not be so readily forthcoming.

(ii) **Volunteer victims.** "Victims" are a particularly important group of volunteers for full-scale drills. One of the most time-consuming parts of planning a drill is locating volunteers, identifying and recruiting individual volunteers (by name),

training them in their roles as survivors, and arranging transportation to and from the drill site. Because a drill usually simulates the crash of a transport aircraft, the victim requirement for a drill can vary from 30 to 475 depending on the size of the aircraft that normally operate at the airport. Obtaining and preparing such large groups of volunteers usually require several months. Nearby military, collegial, fraternal, and sororital organizations are potential sources of volunteers.

j. **Training.** Emergency drill planners are fortunate in that much of the training needed in preparation for a drill is the same training routinely conducted by airport and local emergency units. There are, however, two training considerations that need to be addressed by planners, victim training and drill integration.

(1) **Victim training.** The volunteers who will play victims need brief instructions on the behavior emergency survivors display. Fire and rescue personnel could brief volunteers or prepare handouts for them to describe the typical behavior of trauma, shock, burn, and psychological stress victims. Medical personnel could do the same for behavior resulting from specific physical or psychological injuries. It is important for airline personnel to understand psychological stress or injury; airlines may be required by the airport or by their own emergency plans to assist survivors who have sustained little or no physical injuries yet who are certain to begin reacting psychologically to an emergency shortly afterwards.

(2) **Drill integration.** Planners who are developing a full-scale drill, particularly those involved in staging a drill for the first time at their airports, may find it useful to make the airport full-scale drill the conclusion of a series of partial drills that have taken place throughout the year. Each partial drill would train and test personnel in one particular aspect of the AEP, such as airport security, medical treatment, communications, and fire-fighting. In this way, the airport and community gradually work towards implementing the full AEP. A first-time try at combining all the elements of the plan is likely to result in confusion and frustration. Once the series of partial drills is complete and the separate skills refined, the airport and community will be ready to mount an integrated full-scale drill that applies all the skills.

k. **Site operations.** Emergency drill planning for full-scale drills requires that planners provide facilities and coordination procedures for the emergency response functional areas at the emergency

site: ARFF, security, medical, and airport operations. Typically, the functional areas will be represented by coordinators at the emergency site, while normal airport operations will continue to be directed from an ATC facility, such as the control tower, or through advisory radio services, such as the Flight Service Station (FSS) or Unicom, operated by a fixed base operator (FBO).

(1) **Coordinators.** The Site Coordinator will have to be chosen if such an assignment does not already exist.

(2) **Command Post.** The Command Post should be chosen and well-marked to distinguish it from other emergency vehicles.

(3) **Emergency response functional areas.** An area coordinator for each emergency response functional area will have to be chosen if such an assignment does not already exist. To prepare the Site and emergency response functional area coordinators, planners might hold one planning meeting in which the functional area coordinators compile a list of all the units and agencies that will fall under their direction and be at the service of the Site Coordinator.

(i) **ARFF.** Planners of drills involving ARFF should designate a Fire Chief, who will control all aspects of the firefighting effort. The Fire Chief may belong to an off-site unit if the airport has no ARFF unit of its own.

(ii) **Security.** Security personnel of the airport and surrounding localities should be jointly involved in planning. In addition to practicing the control of traffic and access to the emergency site, security has a special need during drills to keep vehicles and personnel from wandering into areas where aircraft are operating; such a precaution is particularly important near helicopter operations, because when operating, the rotors are practically invisible and thus extremely hazardous.

(iii) **Medical.** Planning for the medical functional area in airport emergencies and emergency drills should emphasize triage (sorting the injured based on severity of injury) and transportation. Emergency medical technicians, paramedics, or doctors trained in mass casualty treatment should be involved in planning. As part of the drill, planners should include a system for noting the time of arrival and departure of ambulances and helicopters, as well as the names or numbers assigned to the victims. Keeping accurate, thorough records aids in assessing how well the medical responders distributed the victims to hospitals and

the amount of time they needed to rescue and transport them.

(iv) **Airport operations.** During actual emergencies, the operation of an airport may be partially or completely halted to permit rapid rescue of survivors; however, during drills, airport operations normally continue. Planners should confer with ATC personnel to coordinate vehicle control, airport operations restrictions, and communication frequencies that are available for the ATC facility and drill participants. If a code word for an actual injury or emergency is chosen for a drill, the ATC facility should be made aware of the word so that service to an actual emergency is expedited.

l. **Mutual aid.** Testing the mutual aid services is an important part of the drill. Mutual aid agreements should be reviewed and updated before they are tested. One or more planning meetings with mutual aid coordinators should be devoted to the subject of mutual aid control and service. Separate mutual aid planning sessions for each functional area should be held, culminating in final briefings of the entire group.

m. **Assessment/critique.** A system for assessing the success of the drill and ultimately the AEP should be developed.

(1) **Composition.** The assessment team normally consists of selected evaluators, who:

- (i) Have full access to the drill site,
- (ii) Focus on at least one functional area,
- (iii) Assess the overall operation with emphasis on command, control, and communications,

(iv) Enter their observations on critique sheets that are usually divided into sections corresponding with the four functional areas.

(2) **Critique sheets.** It is preferable for evaluators to use critique sheets developed before the drill rather than to use improvised forms. Critique sheets developed in advance can focus the evaluators' attention on critical areas of concern to airport operators and emergency response planners. Examples of useful critique sheets are found in Appendix 10. Critique sheets permit the evaluators to record information on:

- (i) response times,
- (ii) use of equipment,
- (iii) condition of equipment,
- (iv) familiarity with the AEP,

- (v) visibility of command personnel,
- (vi) efficiency of communications, and
- (vii) victim handling.

n. Participant involvement. The success of an airport emergency drill depends upon full involvement of the parties described in the AEP and the dedication to realism of response personnel and equipment. These, in turn, depend upon the motivation and cooperation of the participants.

(1) **Motivation.** Perhaps the most effective way to develop a spirit of cooperation and involvement in the airport's drill is to include outside participants in the planning of the drill from the outset. Airport emergency planners are responsible for the services of airport personnel such as airfield operations and ARFF; mutual aid units can supplement those services with additional expertise. Outside resources, such as county emergency coordinating groups, fire departments, and police, should be included in planning from the start.

(2) **Cooperation.** All parties should cooperate in choosing a convenient date, setting goals, and deciding the level of the emergency response for the drill. Though drill planners may have specific goals in mind, other participants may have their own training or testing needs. Generally, cooperation occurs when all parties can meet their individual needs through the joint project.

(i) **Meetings.** Setting up pre-drill meetings can be difficult because many emergency response organizations, such as ambulance services, are always on call. The closer the meetings are to the date of the drill, the greater the likelihood of attendance. Meetings should take place only a few weeks ahead of the drill, if possible.

(ii) **Last-minute actions.** Actions such as last-minute attempts to obtain volunteer "victims" tend to cause problems; no matter the intent, such actions often suggest that airport planners are either disorganized or not serious in their desire to conduct a thorough drill. Interest and motivation of off-site resources often reflect the *interest, motivation, and organization* of the airport's drill planners.

32. HOW IS THE PLAN TESTED? An airport emergency drill is a test implementation of the AEP, so it should involve all the parties and organizations that are involved in the plan, *not only in the test itself but also in the planning of the test*. The benefits will be greater for the airport and for other organizations if the drill is an all-around community effort. Clearly, airport personnel lack

the time and specialized expertise to carry out *all* the functions listed below, but the more of these functions they implement, the more smoothly the drill is likely to be.

a. Preparation. Normally, an airport emergency drill requires three-to-six months of preparation in order for planners to:

(1) Set tentative goals and discuss them with other local emergency planners who may be involved,

(2) Set a date for the drill that allows maximum participation by airport and community response personnel,

(3) Develop a scenario for the drill in cooperation with airline and rescue personnel, and, if possible, arrange for use of an airplane during the drill,

(4) Brief airport personnel on planning and involve them in it,

(5) Brief local and regional emergency response organizations on planning and involve them in it,

(6) Verify that the emergency resources participating in the drill have or will have proper backup reserves to attend to normal business and respond to actual emergencies,

(7) Find and recruit volunteers to play "victims" and then arrange for a moulage team to prepare them on the day of the drill,

(8) Review the AEP, looking for items that may be outdated, such as names, phone numbers, and radio frequencies,

(9) Conduct separate planning sessions for:

(i) ARFF,

(ii) Security,

(iii) Medical,

(iv) Airport operations,

(v) Media,

(vi) Airline, and

(vii) Maintenance personnel.

(10) Develop clear procedures for shutting down the drill in the event a real emergency occurs while the drill is in progress,

(11) Avoid artificial drill assignments (e.g., not assigning as Site Coordinator someone who, according to the AEP, stands little chance of as-

suming that role. Personnel should receive assignments that they are likely to receive in a real emergency; yet they should also be familiar with most, if not all, of the assignments of *lower* responsibility than the one they are likely to receive),

(12) Consider purchasing one-day insurance for the event to cover possible liability for drill-related accidents or incidents,

(13) Avoid unnecessary fear and tension, by alerting the general public and passengers of the drill *before it begins and while it is in progress* through newspapers, radio, public address equipment, and signs (e.g., "Disaster Drill in Progress"),

(14) Take inventory of stored emergency response equipment and replace outdated supplies,

(15) Set up a drill evaluation system,

(16) Prepare information packets containing background materials and critique sheets,

(17) Finalize the list of volunteer "victims" into a passenger manifest that can be used by cooperating airlines during the drill, and

(18) Brief observers, evaluators, and media before the drill.

b. Documentation. The documentation necessary for conducting emergency drills is simple and consists of minutes of planning meetings, briefing packets, and critique sheets. Drill planners should keep minutes primarily to aid in planning future drills. It will be useful to know what organizations and people attended the meetings and the approximate schedule of the planning program.

(1) **Benefits.** It will save time and effort in the future if the process of creating previous drills can be researched from past experience. Emergency drills generally evolve year after year into more complex and sophisticated patterns as airport and local emergency response personnel become more proficient in their actions and interactions. To plan each drill from scratch without the aid of previous experience is extremely unproductive because it wastes time and ignores the invaluable lessons of experience.

(2) **Information packets.** In the week before a drill, airport personnel should finish preparing information packets for local officials, the media, observers, and evaluators. These packets usually contain maps of the airport depicting traffic routes, the emergency site, and control points; sometimes the airport emergency grid map is provided as a common reference for all rescue personnel, observers, and evaluators. The packet might

also include copies of the emergency scenario, abbreviated minutes of planning sessions, press releases explaining the reason for the drill, and a list of safety rules and precautions for those not familiar with airports. A sample press release is provided in Appendix 2, and a sample list of safety precautions is provided in Appendix 9.

(3) **Critique sheets.** The packets should include critique sheets or forms. The sheets are designed for the evaluators, but observers and drill participants, including some "victims," should also fill out copies. An observer may have useful comments to offer; participants almost certainly will.

c. Command, control, and communications. Command, control, and communications are a common weakness in drill implementation. If the personnel who could conceivably assume command are not familiar with their responsibilities, with the Command Post equipment, or with the identification scheme that indicates function, then breakdowns in communication and control quickly begin to occur.

(1) Coordinators.

(i) **Site Coordinator.** Airport operators appear to be suitable Site Coordinators because they often play a major role in writing the AEP and planning the drill. The true test of an AEP is not that its authors know how to implement it, but that the personnel responsible for implementing it can in fact do so. Airport operators and other emergency planners will probably learn more about the effectiveness of the AEP if they are free to move around the site to observe the progress of the drill.

(ii) **Visibility.** The Site Coordinators and the area coordinators for ARFF, security, and medical, should be highly visible and identifiable by the outfits they wear. The outfits should be prepared before the drill and stored in convenient locations for rapid use on-site.

(2) **Command Post.** The Command Post, whether a vehicle or a booth, should be marked conspicuously and equipped with appropriate communications equipment and inventory lists.

d. Emergency response functional areas. ARFF, security, medical, and airport operations should use the drill to test the capability of their personnel and equipment.

(1) **ARFF.** The ARFF effort during a drill is often the easiest part of the planning and

execution, since on- and off-site ARFF units generally are well-practiced in their skills.

(i) **Realism of the drill.** An open fire for ARFF personnel to extinguish might enhance the value of the training and heighten the on-site realism; however, planners need to consider the value of the experience and balance that against potential hazards and local environmental restrictions. In some localities, considerable time and effort may be needed to obtain permission to conduct a drill using an actual fire.

(ii) **Coordination.** The emergency drill provides an opportunity to coordinate the combined talent of airport ARFF units and local structural firefighting forces. It may be the first chance mutual aid firefighters have to work on the airport and take part in ARFF operations; so mutual planning and training in preparation for the drill should be encouraged. However, local structural firefighting forces cannot categorically be counted on for drills because of time constraints, budgets, or even jurisdictional restrictions.

(2) **Security.** The drill gives security an opportunity to practice its key functions: restricting access to the site of an emergency, controlling traffic, and preserving wreckage for investigators.

(i) **Restricting access.** Planners should prepare and distribute identification lists or badges to participants acting as ministers or media representatives, as a test for security.

(ii) **Traffic control.** Security screening is often not an important issue in drills and thus is given slight attention, but planners should make every effort to include full-scale traffic control as part of drills. But testing the ability of security to control the parking and flow of vehicles at the emergency site and of local police to reach and control traffic around the airport or on routes to the airport should receive heavy emphasis.

(3) **Medical.**

(i) **Screening.** The most common failure in emergency drills is the inability to locate and screen all the victims. Drills provide important practice in triage.

(ii) **Treatment.** The drill's value will be enhanced if triage-trained personnel, such as emergency medical technicians/ paramedics or triage teams from hospitals, are available. Those with traditional medical training will be more valuable at hospitals where they can better apply their one-on-one skills and have full use of their equipment. It is also extremely important for personnel to

practice moving injured victims away from windows and doors, where they may be struck by debris, and away from any explosives and fires.

(iii) **Evacuation coordination.** Evacuation is a complicated process. A drill enables ambulance and medical evacuation helicopter services transporters (i.e., drivers and pilots) to test their familiarity with patient needs and medical facility locations. One way to reduce error is to print directions from the airport to local emergency facilities on file cards and distribute them to transporters. Planners should also provide a system for documenting which patients are being dispatched in which vehicle. They should establish some means for coordinating air and ground evacuation.

(iv) **Services for the uninjured.** Emergency drill planners must not overlook the needs of the seemingly uninjured. Even though the drill is a simulation, medical personnel skilled in mental health services should practice their techniques with uninjured "victims."

e. **Equipment.** The drill should test the ability of various personnel to use emergency response equipment safely, appropriately, and efficiently.

(1) **Accessibility.** In a drill, as in an actual emergency, equipment should be readily accessible. The drill affords an opportunity of testing how rapidly off-site equipment arrives and how easily on-site equipment is mobilized.

(2) **Supply kits.** Before the drill, planners should list the contents and locations of the kits. The lists and maps should be distributed as part of the planning sessions for ARFF, medical, and security services.

(3) **Compatibility.** Compatibility of on-airport and off-airport equipment is critical in an emergency response. The drill provides an opportunity to test compatibility. For example, using a structural pumper to draft water from a landscape pond to refill a ARFF vehicle can demonstrate whether the pumper and vehicle are compatible. The drill also enables planners to check both the wiring and the quality and compatibility of the matings that connect devices.

f. **Tenant Activity.** Airport emergency drills are a valuable opportunity to encourage cooperation of airport tenants with the emergency response effort. Two types of aid are commonly available from tenants: equipment and victim support.

(1) **Equipment.** Tenants like fixed base operators (FBO) or airlines are a good source of con-

struction equipment, aircraft jacks, trucks, and baggage carts, but they are often reluctant to provide it for drills. Drills incur expenses in labor hours and equipment operating costs that seem justifiable only in actual emergencies. Planners must work to achieve cooperation from tenants; without it, the airport misses out on the practice of using resources that may be written into the AEP. Airlines, in particular, may be encouraged to participate because they probably have emergency response plans of their own, which need to be practiced for the same reasons that the airport's does.

(2) **Victim support.** Restricted areas should be set aside in which ambulatory and apparently uninjured survivors can be cared for and aided. Simulation of this service should not be overlooked during drills. In actual emergencies, victim support services, including taking care of passengers who are not noticeably injured, are normally the responsibility of the airline(s) involved. Therefore, the airline(s) should participate in the drill. However, planners should also practice providing victim support for an emergency involving, for instance, a charter operator that has no facilities or service personnel located on the airfield.

g. **Airport operations/tower.** Coordination of emergency activities with normal airport operations is more difficult during a drill than during an actual emergency; airport operations usually continue during drills but may be suspended during an actual emergency. Tower, FSS, and/or FBO personnel using Unicom should be thoroughly briefed on the drill and given guidance on areas that may be restricted because of the drill. This permits them to warn aircraft by radio. All these personnel should be alerted for the possibility of incursions into the airport operating surface by personnel and vehicles not associated with the drill. Tower, FSS, and FBO personnel can play a role in preventing such incursions or preventing their becoming serious.

h. **Aircraft.** The use of aircraft during a drill adds authenticity and provides valuable training. Mutual aid units that have little or no exposure to aircraft can use the drill as an opportunity to become familiar with the details of aircraft construction, layout, fuel location, exit configuration, and size. If planners begin efforts early enough, airline or military aircraft can usually be provided for use in drills, since the aircraft would be needed only for the three to four hours that the average

on-site drill lasts. Planners should limit access to the aircraft and brief drill personnel on precautions to take when working in or near the aircraft.

i. **Site usage/equipment array.** The emergency drill is an ideal time to plan and practice the systematic arrangement of the Command Post, emergency vehicles, ambulances, other emergency equipment, and to coordinate traffic flow on the site itself. Each emergency site will differ, but the emergency drill is a chance to experiment with various systems and evaluate their success under relatively controlled circumstances. As a result, patterns for the various potential sites may develop. (See Figure 2-2).

33. EVALUATING THE PLAN. Drills provide airport operators and drill planners an excellent opportunity for evaluating the effectiveness and efficiency of the AEP. To maximize the value of evaluation, planners should carefully design a system of evaluation.

a. **Planning.** In accordance with the goals of the drill, planners should develop an evaluation system that includes feedback, identifies benefits, and obtains the services of evaluators well before the drill takes place.

(1) **"Feedback loop".** Figure 3-1 illustrates the classic project management system for project planning and implementation. A project is planned, implemented, and then evaluated (given feedback); the feedback leads to the development of modifications where they seem to be needed. The cycle begins anew.

(2) **Benefits.** Planning an effective evaluation system for any size of airport emergency response drill is important not only for detecting problems in the drill itself, but more importantly, for finding areas of the airport or community emergency response plans that may need refinement.

(3) **Evaluators.** The drill should be totally open to a select group of knowledgeable evaluators, identifiable by distinctive clothing. The evaluators should not be involved in the planning or conduct of the drill. Normally, the FAA, other federal agencies, other airports, and private aviation organizations can provide experienced evaluators both for the benefit of the airport holding the drill and for their own benefit. Evaluators need to be signed up far ahead of time and familiarized with the airport plans, including evaluation and reporting guidelines.

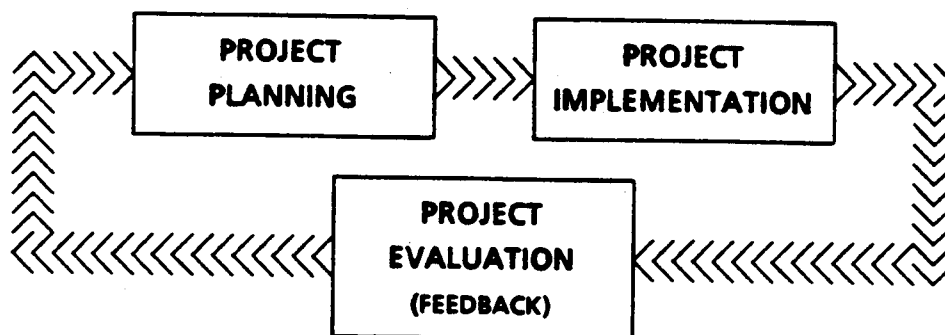


Figure 3-1. Project Management Loop

b. **Preparation.** Evaluators experienced in airport operations, emergency response, and emergency drills require no training by drill planners. However, a preliminary meeting about the scope and goals of the drill enables the evaluators to do their jobs effectively and thus yield the greatest benefit to the airport.

(1) **Preparing evaluators.** Evaluators should receive information packets and critique sheets well before the drill takes place. Assigning evaluators to assess command, control, and communications and the emergency response functional areas ensures that the key elements of emergency response are observed in detail. Other evaluators should be assigned to critique the entire drill; they will move about the site and observe all of the functional areas and response efforts. Outside evaluators often have preferences or clear expertise in certain areas, such as security or medical, so planners should ask about evaluation preferences before making evaluation assignments.

(2) **Critique sheet.** A critique sheet is a considerable aid in the evaluation of emergency response drills. It is most effective if it is divided into separate sections addressing each of the separate functional areas with sufficient space for taking notes. Its questions should be general; questions that are too specific may consume evaluators' time with details and prevent them from seeing the drill from a larger perspective. Sample critique sheets are provided in Appendix 10.

(3) **Briefings.** Planners should brief evaluators on their functions and last-minute changes on the day before the drill. At that time, planners may give them final copies of drill information and critique sheets and distribute distinctive vests, hats, badges, or other means of identification. Evaluators should also attend media and response unit briefings, where they can raise questions about the AEP, identify the drill participants, and familiarize themselves with the marking or clothing that identifies each emergency response function.

c. **Feedback.** Three systems of feedback common in drills are on-site or immediate feedback, critique conferences, and written reports. One or more of these systems should be used.

(1) **On-site or immediate feedback.** On-site feedback involves assembling representatives from all participating groups immediately after the drill to get their comments while the drill is fresh in their minds. Naturally enough, many details may escape as an evaluator tries to summarize several hours of intense activity in a five-minute oral report. Evaluators will overlook other details until later, when they compare notes with other response personnel. The great advantage of on-site feedback is that everyone's interest is at its peak; the most critical problems will likely be discovered immediately. To conduct an on-site feedback session, airport operators and drill planners should set up rules of order to ensure uninterrupted speaking opportunities; a stenographer or tape recorder should record the session for later review.

(2) **Feedback conference.** The feedback conference will usually involve planners and managers of the various emergency response units involved in the drill and the AEP. Planners should schedule it no sooner than one week after the drill; managers will probably need at least a week just to hold feedback sessions with their own personnel, gathering valuable information to share at the conference. Local emergency coordinators should attend the feedback conference, both to benefit the airport in its use of community resources and to

ensure that the community benefits from the airport's experience.

(3) **Written reports.** Evaluators experienced in drills and critiques should write reports of their observations. Planners may also ask other personnel for written reports. Written reports are often more candid than comments made in the sensitive atmosphere of on-site feedback sessions, where participants might be sensitive to outsiders' comments.

34.-39. RESERVED.

CHAPTER 4. MAINTAINING THE PLAN

40. GENERAL. Personnel should periodically review AEP procedures, policies, and techniques and thoroughly reacquaint themselves with emergency response facilities and equipment. Training that covers changes and improvements in procedures, policies, equipment usage, and techniques will be necessary to ensure that the plan itself remains current and that all personnel stay familiar with the most recent contents of the plan.

41. SCHEDULE OF REVIEW. AEP preparers should develop a schedule for reviewing each part and phase of their AEP. A suggested schedule for some of the most critical elements of a typical AEP is provided below.

a. Phone numbers. Quarterly, all emergency phone numbers of organizations and specific responsible individuals should be called for verification. Any changes in an organization's hours of telephone coverage should be noted in the AEP.

b. Radio frequencies. All emergency radio frequencies should be used every month to transmit and receive a test message.

c. Emergency equipment and supplies. Inspections (e.g., for location, quantity, and condition of equipment and supplies) and operational checks should be performed daily, weekly, or monthly, depending on the type of equipment and supplies.

(1) Daily inspections/operational checks might be made for equipment such as ARFF vehicles and the airport emergency (crash) phone system.

(2) Monthly inspections/operational checks might be made of supplies such as blankets, backboards, ropes, and lights.

(3) Monthly inspections/operational checks might be made for medical supplies and small pieces of equipment.

d. Personnel assignments. The descriptions of duties and responsibilities should be reviewed semi-annually. A check should also be made to verify that individuals are in fact still assigned to their positions of responsibility.

e. Airport operations. For any changes in airport operations (e.g., extending flight operations), for activities that could affect operations (e.g., airport construction), or for a single significant event (e.g., the arrival of dignitaries, sports or

entertainment personalities, or unusually dangerous cargo), the AEP should be reviewed.

f. Mutual aid agreements. These documents should be reviewed biannually or as otherwise specified in the agreements themselves.

g. Off-airport activity. As AEP preparers devise a schedule to maintain the plan, they should communicate regularly with the department(s) of public works and other important organizations to learn of activity that may affect the airport's emergency response effort. A telephone survey of the appropriate offices should be conducted monthly. It might be valuable to be on the mailing lists of those organizations in order to receive important notices. In any case, AEP preparers should identify the most critical routes of access and egress and request all personnel to report any obstructions to these routes as soon as possible.

h. Documentation. Training manuals and rule books should be reviewed every year and revised to reflect changes and improvements in policies, procedures, techniques, equipment, and facilities.

i. Full-scale drill. Each airport operator should conduct a full-scale drill at least once every three years.

j. Tabletop exercise. Each airport operator should conduct a tabletop exercise at least once a year. In those years when the tabletop exercise coincides with the full-scale exercise, the tabletop exercise need not be conducted. During the non-full-scale years, other emergency situations might be considered as subjects for tabletop exercises such as vertical or horizontal drills.

k. Airport Emergency Plan. The AEP itself should be completely reviewed every year or whenever a significant change occurs for any of the other items listed above.

42. TRAINING.

a. Importance. The on- and off-site personnel who respond to emergencies are the most vital element of an airport's emergency response capability. Their training is essential for responding effectively to emergencies by making optimum use of facilities, equipment, and vehicles. The emergency procedure guidelines presented in this section address the following issues:

(1) How well airport personnel know the airport's AEP, facilities, equipment, and vehicles, and

(2) How well the personnel from emergency response organizations (e.g., fire and police) know their own emergency response plans, airport facilities, equipment, and vehicles.

b. Familiarization. Airport personnel are usually familiar with their own equipment and facilities just as emergency response organization personnel are familiar with theirs. Each group, however, probably knows much less about the equipment and facilities of the other group. Therefore, training should familiarize each group with the other's facilities, equipment, operations, and supporting documentation.

43. AIRPORT PERSONNEL TRAINING.

a. General. Initial training of airport personnel is basically devoted to standard operating procedures. The training, however, usually includes preventive safety rules and emergency procedures as well. Although airport personnel may never be called upon to use many of those rules and procedures, they should nonetheless be familiar with them. Certain categories of airport and other emergency response personnel should receive specialized training based on their individual job responsibilities. Moreover, training should be considered an ongoing process to prevent loss of knowledge and skills over time. Airport operators should:

(1) Train all employees in initial operational and emergency responses (phase 1),

(2) Train certain groups of employees, depending on their specific job requirements, in specialized emergency responses (phase 2), and

(3) Offer all employees refresher and retraining courses for phases 1 and 2.

b. Initial training. Initial training should survey airport operations and familiarize employees with the operating rules and procedures, the layout of facilities and their location, and the use and application of communication and emergency equipment. The following elements should be covered:

(1) **Standard operating procedures (SOP's).** All airport operators should:

(i) Establish guidelines for handling all normal, abnormal, and emergency airport operations, and

(ii) Begin initial training in emergency procedures with discussions on what an emergency

is and what occurrences could create an emergency that endangers the safety of passengers and/or employees.

(2) **Layout of facilities.** Initial training should:

(i) Familiarize personnel with the layout of facilities by using films or video tapes and walking tours of the facilities, and

(ii) Emphasize the location and operation of normal and emergency exit controls, communication equipment, and other safety features of the facilities.

(3) **Communication equipment.** Initial training should:

(i) Familiarize personnel with the location and proper use of communication equipment,

(ii) Stress that communicating only priority information can save valuable time and facilitate response, and

(iii) Teach operating personnel who have had specialized training how to communicate with responding mutual aid organizations.

(4) **Emergency equipment.** Initial training should:

(i) Show personnel where specialized emergency equipment associated with their assigned duties is located and how it is used, and

(ii) Instruct operating and maintenance personnel, supervisors, and inspectors to report lost, stolen, or vandalized equipment.

c. Specialized emergency training. Airport operators should conduct a cycle of specialized training courses, followed by periodic refresher courses. Simulation drills, equipment, procedures, and employee skills should be reviewed regularly to determine the need for refresher training.

(1) **General.** Depending on their specific job responsibilities, airport personnel should receive specialized training for a variety of emergencies. Specialized training should:

(i) Cover procedures for assisting the elderly and handicapped,

(ii) Comprise separate training programs for emergency operating procedures,

(iii) Include sessions to teach employees specific emergency procedures that they will be expected to carry out,

(iv) Use the AEP as a format for the training sessions,

(v) Include drills that simulate emergencies with an emphasis on realism, and

(vi) Contain drills that teach personnel to distinguish one emergency from another, identify each one's unique demands, and implement the appropriate responses,

(2) **Air traffic control (ATC).** ATC often initiates the response to an emergency. Though remote from the emergency scene, well-trained controllers are capable of mitigating an emergency's effects. A controller should know:

(i) The details of the fixed facilities, and

(ii) The capabilities, limitations, and typical failure modes of aircraft, power, and communications systems.

(3) **Other personnel.** Operating and supervisory personnel, maintenance personnel, and airport security should know appropriate responses to the following emergencies, depending on their specific responsibilities:

(i) Aircraft incidents and accidents,

(ii) Bomb incidents, including designated parking areas for the aircraft involved,

(iii) Structural fires,

(iv) Natural disasters,

(v) Bomb threat/explosive materials,

(vi) Sabotage, hijacking incidents, and other unlawful interface with operations,

(vii) Failure of power for movement area lighting, and

(viii) Water rescue situations.

(4) **Passenger emergency care training.** Airport operators should provide emergency care training to appropriate employees. Emergency care training programs may teach the following:

(i) First aid treatment of hemorrhages, bruises, and abrasions,

(ii) Recognition and immobilization of passengers with head and back injuries,

(iii) Cardio-pulmonary resuscitation (CPR), and

(iv) Treatment of respiratory blockages and convulsions.

(5) **Crowd control and panic prevention.** Training in crowd control and panic prevention techniques is often appropriate for airport operations personnel.

d. **Refresher/retraining programs.** Employees should understand the importance of repeated and updated training. Airport operators should institute refresher/retraining programs to:

(1) Inform employees of changes in procedures and equipment,

(2) Reinforce a segment of the program for an individual who has not performed properly, and

(3) Maintain employee skills at a level enabling them to execute their responsibilities effectively.

e. **Training methods and equipment.** Airport operators should devise formal methods for training their personnel. Formal methods include, but are not limited to, classroom instruction, on-site familiarization, and emergency training drills (for airport personnel, emergency response personnel, and the public). They should use regular training to identify inconsistencies in operating rules, SOP's, and personnel duties. Eliminating inconsistencies will help avert future confusion.

(1) **Classroom instruction.**

(i) **Rules, SOP's, and emergency procedures.** Classroom instruction should explain rules, SOP's, and emergency procedures. Discussions of the material should be thorough, and examinations should be given to test comprehension.

(ii) **Audio-visual (AV) training programs.** Audio-visual training programs and equipment mock-ups can substantially enhance classroom instruction. Films, videotapes, and slide presentations should also be used for ongoing refresher training courses.

(A) AV can illustrate the emergency response procedures used by supervisors, police, the public, and fire/rescue personnel. They can show the specific procedures each airport unit should follow.

(B) AV presentations should stress the importance of intra-divisional teamwork and inter-organizational coordination.

(2) **On-site familiarization.** On-site familiarization includes on-the-job training, walking tours, demonstrations, and/or hands-on practice sessions.

(i) **On-the-job training.** Following classroom instruction, airport operators should offer supervised on-the-job training that provides the trainee with hands-on experience and an understanding of operational rules and procedures.

(ii) **Walking tours.** Walking tours of the terminals, concourses, hangars, and control tower can enhance trainees' familiarization with the airport environment.

(iii) **Demonstrations/practice sessions.** Actual hands-on practice sessions should follow AV presentations of equipment and procedures to put the classroom instruction into practice, reinforce skills, and lower emergency response time.

(3) **Simulation drills.**

(i) **Drills during service.** Airport operators should schedule drills during service by posing an emergency for airport personnel without actually interrupting service or dispatching fire/rescue personnel to the scene. These may be general notice drills, employee notice drills, or no-notice drills, depending on how many employees, emergency response personnel, and passengers are informed beforehand.

(ii) **Performance of a simulation critique.** The purpose of a critique is to:

(A) Review the reports of the monitors,

(B) Present comments or observations from sources other than the observers, and

(C) Assess the need for any action either to correct deficiencies or to improve the effectiveness of the emergency operations and procedures.

Videotaping the simulation drill provides observers and reviewers with an overview of the entire operation and thus serves to enhance the critique.

(4) **Emergency simulation facilities.** Each airport should have the ability to simulate emergencies in areas of the airport set aside for drills (e.g., for training operating personnel how to use the aircraft emergency ladder for passenger evacuation).

44. EMERGENCY RESPONSE ORGANIZATION PERSONNEL TRAINING. To ensure a coordinated response to emergencies, airport operators should:

a. Supply the upper management of organizations such as the fire and police departments with AEPs and any other information affecting the coordination of emergency response activities, and

b. Offer training in airport emergency procedures to local police, firefighters, ambulance personnel/paramedics, and other off-site emergency response organizations. The training should include:

(1) Formal presentations and discussions of the airport's emergency plan, facilities, equipment, and normal and emergency operating procedures,

(2) Tours of the airport to highlight features described in the formal presentations and to familiarize the personnel with the layout and topography of each segment of the airport, and

(3) Full-scale drills (see Chapter 3), which involve all participating organizations and reinforce the emergency response and evaluation procedures.

45.-49. RESERVED.

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APPENDIX 1—EMERGENCY RESPONSE PROCEDURES FOR SOME TYPICAL EMERGENCIES

SECTION 1. AIRCRAFT INCIDENTS AND ACCIDENTS

1. INTRODUCTION. Every airport management must be prepared to cope effectively with any aircraft incident and accident that occurs in any part of its airport or adjacent to the airport if it involves an aircraft.

2. THE TWO TYPES OF INCIDENTS/ACCIDENTS. The two types of accidents/incidents are:

a. Those that involve announced emergency landings. In developing airport emergency plans for announced emergency landings, planners should:

(1) Assume that the pilot is probably in a better position to determine what constitutes an emergency and whether to request that the aircraft rescue and firefighting (ARFF) unit respond or that it maintain an alert stand-by,

(2) Be able to furnish information regarding timing or the advantages of using a particular runway for an emergency landing, as well as other pertinent information, and

(3) Exercise caution on requesting additional information from the pilot during the early stages of an emergency declared by an approaching aircraft. Restraint will give the pilot time to complete his duties related to the emergency.

b. Those that occur without advance notice. In an incident or accident that occurs without advance notice, there is no question concerning the immediate response of the emergency vehicles and the mobilization of the entire ARFF operational staff.

3. GENERAL RESPONSE PROCEDURES. For either type of incident or accident, procedures should be in place for:

a. Notifying the airport ARFF personnel, ambulance services, medical services, law enforcement agencies, the National Transportation Safety Board (NTSB), the Federal Aviation Administra-

tion (FAA), and other emergency services as required,

b. Establishing an emergency control center/command post that includes an emergency communications network,

c. Evacuating and caring for all passengers and crew members,

d. Providing service for injured personnel,

e. Instructing uninjured personnel on how to get to safe locations or actually transporting them to the locations, and

f. Protecting passenger and personnel personal effects.

4. DEFINITIONS.

a. Respond means that the ARFF vehicles and ambulances will:

(1) Be pre-positioned at the runway as required when an emergency is declared by an approaching aircraft, or

(2) Respond to the scene of an accident.

b. Standby means that the airport ARFF vehicles and ambulances will be manned and maintained in a ready status in the fire station for situations such as an aircraft approaching with a minor mechanical difficulty.

5. LIKELY OCCURRENCES. The situations listed below are among those that are most likely to occur to aircraft and passengers and that will consequently require response or standby from ARFF vehicles or ambulance rescue equipment.

a. Mechanical emergencies.

(1) Engine out,

(2) Fire warning light,

(3) Engine fire,

(4) Engine overhead conditions,

- (5) Oil or hydraulic leak,
- (6) Faulty landing gear,
- (7) Hydraulic problems including low pressure or loss of pressure,
- (8) Rapid depressurization,
- (9) Loss of all generators,
- (10) Power loss,
- (11) Rough engine or engine trouble,
- (12) Tire failures,
- (13) Control surface problems,
- (14) Noise, vibration, buffeting of loose parts such as doors and cowlings,
- (15) Smoke in cabin or crew compartment,
- (16) Structural damage (e.g., shattered windshield), and
- (17) Bomb or suspected bomb aboard.

b. Personal emergencies.

- (1) Heart attack,
- (2) Sudden severe illness, and
- (3) Injury of passenger (requiring transportation)

6. OCCURRENCES THAT MAY REQUIRE ARFF RESPONSE.

a. Declared emergency, unspecified or unconfirmed problem. If, during the pilot's transmission, any doubt about either the nature of the problem or the pilot's meaning arises, the ARFF unit should be alerted and proceed immediately to the runway designated for the emergency landing.

b. Other situations that may require ARFF response.

- (1) Fuel spills,
- (2) Defueling or fueling problems,
- (3) Aircraft ground support equipment problems, and
- (4) Airport structural fires.

7. RESPONSIBILITY FOR NEWS RELEASES. In general, responsibility for news releases concerning an emergency should be that of:

- a. The representative of the airline involved,
- b. The senior military officer present or the public relations officer of the installation on which the aircraft is based, for an accident involving a military aircraft or its cargo,
- c. The Department of Energy (DOE) representative present or public information officer at the DOE office involved, if the cargo is material that belongs to or is in the custody of the DOE or a DOE contractor, or
- d. The airport management for emergencies not covered by the above.

SECTION 2. BOMB OR EXPLOSIVE MATERIALS, THREATS, AND INCIDENTS

8. GENERAL. An AEP should carefully detail means for resolving incidents involving bombs or explosive materials.

a. Seriousness of the crime. The history of bomb incidents is such that no report or rumor, however vague, can be ignored. Each case must be thoroughly investigated in a manner that will safeguard the public and minimize damage if a bomb is actually present.

b. Jurisdiction. The U.S. Department of Justice has jurisdiction to investigate cases involving airline sabotage, attempted sabotage, or bomb threats. Local, municipal, and state ordinance codes might also apply and, in coordination with law enforcement agencies, be an effective tool in handling these situations.

9. NOTIFICATION AND RESPONSE.

a. Notification. Airport operators should prepare a Bomb Threat Notification List that includes the names of personnel and organizations that should be notified in the event of a bomb threat. The local Civil Aviation Security Office (CASFO) should be notified of all bomb threats or actual bombing incidents. The letter of agreement with Air Traffic Control (ATC) should establish procedures to assure that appropriate personnel such as airport authorities and airline offices are notified of these incidents. These procedures are contained in the current edition of FAA Handbooks 7110.65 and 7110.10A. It is not necessary to include the ATC procedures in the AEP; however, they may be paraphrased so that representatives of

other organizations can become familiar with the overall plan.

b. Response personnel. Response personnel might include:

(1) **Airport security or police forces.** Responding to bomb incidents is the responsibility of airport security forces or nearby police units.

(2) **The U.S. Army Explosive Ordnance Disposal (EOD) units.** EOD units are another important resource, particularly when the local law enforcement agencies either lack a bomb disposal capability or else have overextended their capability. EOD units constitute small groups of highly trained specialists located throughout the country at various Army installations. See Appendix 4 for a list of EOD Control Centers to contact for assistance.

(i) **Services.** Although EOD specialists are trained to operate in a combat zone, their services are available to airports. Their services range from disposing of unserviceable dynamite to the more exacting task of disarming a homemade bomb.

(ii) **Restrictions.** The assistance that EOD personnel may offer is governed by the Posse Comitatus Act of 1878. This Act prohibits Army personnel from assisting civil authorities in the execution of civil law enforcement. Rendering a bomb harmless does not violate the Posse Comitatus Act; however, searching the area does, because the search can be construed as an act contributing to the enforcement of a law. As a result, EOD personnel should not be expected to assist with this task.

10. GENERAL RESPONSIBILITIES. The following are general responsibilities for bomb threats involving both aircraft at the airport and terminal buildings.

a. Notifying the communication center.

(1) **Receipt of threat.** A bomb or explosive device threat against any terminal facility or aircraft may be received by telephone, telegram, personal contact, mail, or any other means.

(2) **Notification.** When a threat is received, the recipient should:

(i) Contact the communications center immediately,

(ii) State the nature of the emergency, and

(iii) Give all available information.

b. Implementing emergency procedures.

(1) **Airline/aircraft owner responsibility.** The decision to implement the procedures contained in this section is the sole responsibility of the airlines that own or lease the terminal building receiving the threat. The determination to search an aircraft rests with the airline or aircraft owner.

(2) **Airport operator responsibility.** The airport operator, after coordinating with the airline or aircraft owner, can make a decision to move an aircraft to a safer position.

c. Preventing the placement of a bomb or explosive device. Security and the aircraft owners and airport operators are responsible for preventing anyone from placing a bomb or other explosive device in or about aircraft or terminal buildings.

d. Searching the aircraft or terminal. The airport operator, aircraft owners, and tenants share responsibility for searching the terminal or aircraft. Tenants refers to occupants of the various buildings, offices, concessions, and service areas.

e. Removing a bomb or explosive. The airport operator is responsible for assuring that a bomb or explosive device is removed from an aircraft or a building, their surrounding area, or their vicinity. The airport operator should bring in a military or civilian bomb disposal unit as appropriate and required.

11. COMMUNICATIONS CODES.

a. Bomb warning. To avoid unnecessary disclosures, a code might be used in place of the words "bomb threat" or "bomb warning" in all spoken and written communications. One such code is BRAVO WHISKEY.

b. Evaluation codes. Suffix codes may be used by airlines to identify the degree of risk estimated. For example, the following codes may be used:

(1) **ALPHA.** Estimate low risk. Bomb search not required. Probable hoax. Airline is not declaring a bomb threat but merely advising that a bomb threat has been received. Code: BRAVO WHISKEY ALPHA.

(2) **BRAVO.** Suspected or confirmed bomb threat. Code: BRAVO WHISKEY BRAVO.

12. DESIGNATED AIRCRAFT PARKING AREAS. Upon determining that an emergency exists warranting a code such as BRAVO WHISKEY BRAVO, airport operators should either have the involved aircraft towed or instruct the

pilot to taxi to a search area that has been designated in advance for such an emergency. The area should be as isolated as possible.

13. TYPES OF THREAT. The different types of threats are:

a. Definite threat. A definite threat clearly states that a bomb or explosive device is located in a specific area in the terminal complex and is scheduled to detonate at a specific time. The threatened area should be evacuated by all personnel.

b. Indefinite threat. An indefinite threat involves no specific area or deadline. An alert is established for a one hour period after notification of the bomb or explosive device is received. A general search of the area should be undertaken.

c. Personal threat. A personal threat is made by a person or persons in the vicinity of the terminal complex. It refers to an explicit threat or an assertion that can be construed as a threat.

14. RESPONDING TO THREATS.

a. Threats involving aircraft.

(1) The person receiving a phoned-in threat should:

(i) Prolong the conversation and have someone else attempt to trace the call,

(ii) Obtain and record as much information as possible -- in particular, the location of the bomb and the time of detonation when such information is not volunteered,

(iii) Listen closely for background noises such as motors running, music, or anything that might identify the location of caller,

(iv) Determine if the caller is male or female, and

(v) Note voice quality accents and speech impediments.

(2) The person receiving a threat through personal contact should:

(i) Keep the person who has made or conveyed the threat under surveillance until relieved by airport police,

(ii) Note the number of persons involved, their ages, heights, weights, color of eyes, skin, hair, clothing, and any peculiarities,

(iii) Note the type of vehicle, the model, license number, and any other characteristics if the

person(s) leave(s) the scene by any type of ground transportation (taxi, bus, or private car),

(iv) Call the airport police and report all available information, and

(v) Ask the supervisor to coordinate all details with the airport operator.

(3) The communications center should:

(i) Advise the operations officer of any explicit or implied threat, and

(ii) Notify appropriate personnel and units.

(4) The tower controller should:

(i) Relay bomb threat information to the aircraft when a particular flight or aircraft is identified,

(ii) Broadcast emergency information over the phone circuit, and

(iii) Direct the aircraft to an area specified by the airport operator when it lands, if possible and if time permits.

(5) The airport operator should:

(i) Decide on a course of action in consultation with the appropriate airline official,

(ii) Contact the airline representative to better coordinate operations' and the airline's efforts,

(iii) Advise each airline and owner, in the event of a general bomb scare, to search any involved aircraft at their own location.

(iv) Advise the communications center to make either partial or complete notification depending upon circumstances,

(v) Advise the control tower watch supervisor of the threat and close all aircraft movement areas adjacent to the threatened aircraft,

(vi) Direct passengers as far away as possible from aircraft and baggage (During inclement weather, direct deplaned passengers to hangars for protection),

(vii) Instruct airline personnel to move baggage or containers to a specific location away from the passengers and the aircraft, and

(viii) Terminate the alert with the tower controller, if no bomb is found.

(6) Public safety division personnel should respond with appropriate emergency equipment.

(7) The airline or aircraft owner should:

(i) Meet and work with the airport operator or send a representative to meet and work with the officer for purposes of coordination,

(ii) Promptly obtain ground transportation for passengers,

(iii) Send passenger handling representatives, equipment, and personnel to unload aircraft,

(iv) Obtain a police escort for any vehicular travel in an aircraft movement area,

(v) Evacuate all passengers by the safest means possible, using, if necessary, emergency chutes,

(vi) Unload baggage, mail, express freight, and any carry-on baggage left in the cabin,

(vii) Line bags in rows for search by bomb squad or canine teams,

(viii) Confiscate passengers' hand luggage and hold it for search (If any passengers object, have them open and display the contents before they board the bus),

(ix) Search the aircraft,

(x) Not touch or move any suspicious package, piece of luggage, or other object but call it to the attention of the canine or police bomb squad, and

(xi) Advise the operations officer of the results of the search.

(8) Postal inspectors should:

(i) Search mail, and

(ii) Advise the operations officer of the results of the search.

b. Threat involving facilities or structures.

(1) The person receiving the threat should follow the procedures outlined in paragraphs 3a, 7a(1), and 7a(2) of this appendix.

(2) The communications center and/or police desk should:

(i) Notify, upon receiving an implied or stated threat:

(A) the airport operator and the police supervisor,

(B) the people whose names appear on the Bomb Threat Notification List, and

(C) the appropriate airline operations offices if the threat involves their terminal,

(ii) Await the airport operator's instructions,

(iii) Alert various tenants (Specific airlines and fixed base operators should make an announcement over the PA system to evacuate only their areas),

(iv) Advise the airport operator to contact the appropriate emergency response organizations,

(v) Sound the PA beeper for five seconds and then repeat the following announcement three times if evacuation is necessary from all the terminals:

"YOUR ATTENTION PLEASE - THIS IS THE POLICE. THIS IS AN EMERGENCY. PLEASE EVACUATE THE TERMINAL BUILDING(S),"

(vi) Evacuate personnel to designated area(s), if the area of threat involves the police office,

(vii) Dispatch an officer to check that all offices are vacant and secured, if the main terminal building is involved,

(viii) Reroute vehicular traffic (which should allow passengers to load and unload at a safe distance) after consulting with the airport operator and the police supervisor,

(ix) Notify the EOD team of the exact location, if a suspicious object is located,

(x) Cordon off the area of the suspected bomb or explosive,

(xi) Direct the EOD Team to the suspicious item,

(xii) Make announcements over a vehicle PA system and through megaphones (after approval from EOD), terminating the emergency and help remove barricades, allowing airline and tenant employees to enter first, and

(xiii) Check over the Bomb Threat Notification List and enter the disposition of the emergency.

(3) The officer-in-charge should:

(i) Discuss the threat with the airport operator and the chief, operations division, if time permits,

(ii) Decide on a course of action and advise the communications center, using walkie-

talkie or radio to disseminate information, if appropriate,

(iii) Contact the tower supervisor and relay details of the emergency for broadcasting over the emergency phone circuit,

(iv) Advise the control tower watch supervisor to close hazardous areas to aircraft operations,

(v) Indicate gates or areas available to aircraft,

(vi) Establish operational control at the airport operations office or an alternate area,

(vii) Terminate the standby with the tower, and

(viii) Advise the police dispatcher to notify all units when the suspected bomb or explosive is determined to be harmless.

(4) Airlines, tenants, concessionaires, and FAA personnel should:

(i) Notify their supervisors upon hearing the evacuation announcement,

(ii) Contact fellow employees in any of the facilities that are not equipped with a PA system, emergency phone, or radio and advise them to evacuate the emergency area,

(iii) Remain organized and avoid panicking,

(iv) Assign *one* person to search the area, who will follow the Bomb Search procedures described in paragraph 8 of this section. Any individual left to search an area or to fulfill bomb threat responsibilities of a tenant must wear on a visible place on his or her person an acceptable airport identification, and report any suspicious object to the airport police,

(v) Not touch any suspicious object,

(vi) Select a safe evacuation route for personnel and customers, depending upon the reported location of the bomb (e.g., the baggage concourse, often enclosed in heavy construction, may be an excellent route),

(vii) Evacuate personnel and customers to the street side, keeping them a safe distance from areas subject to flying debris or glass (In inclement weather, at the direction of the Site Coordinator, evacuated personnel should be accommodated in a hangar or other facility located at a safe distance),

(viii) Send a management representative to the airport operations office (operational control) to coordinate efforts, and

(ix) Push aircraft the maximum distance away from gates at critical areas.

(5) The duty electrician and engineer should report to operational control and stand by to provide technical assistance.

(6) The police supervisor should:

(i) Advise police officers to check all critical areas, notifying any remaining personnel to evacuate,

(ii) Supervise a physical search of public areas for suspicious objects, and

(iii) Upon discovery, follow prescribed procedures.

(7) The tower controller should:

(i) Broadcast emergency information over the phone circuit.

(ii) Coordinate evacuation with operations, if necessary,

(iii) Set up and man an emergency facility during the evacuation, and

(iv) Cancel the emergency on the phone circuit once the emergency has been terminated.

(8) The fire station or department should:

(i) Dispatch fire equipment to specific location(s) as required, and

(ii) Stand by for ARFF operations.

(9) Engineering and maintenance personnel should:

(i) Provide vehicles and barricades as necessary at prearranged airport locations to re-route vehicular traffic away from the airport,

(ii) Cordon off the entrance to the threatened area with ropes, stanchions, and signs (with the aid of police), and

(iii) Remove barricades once the emergency has been terminated.

(10) The EOD team should perform the duties prescribed in current Department of Defense directives.

15. BOMB SEARCH PROCEDURES. The primary procedures for responding to bomb incidents, such as communications procedures and baggage

search methods, are detailed under the program administered by the FAA Office of Air Transportation Security (SE-1). (SE-1 also has responsibility for hijacking security along with the airlines, airport operators, and the FBI).

a. **Search process.** Personnel assigned to search a room or area shall begin by dividing the space equally among the members of the search team.

(1) **If evidence is found.**

(i) Anyone who finds a suspected object should:

- (A) Not handle or even touch it, and
- (B) Report it to the supervisor.

(ii) The supervisor in turn should notify the communications center.

(iii) Police officers will then be dispatched to the area.

(2) **If no evidence is found.** Search personnel should:

(i) Report the area clear to the supervisor,

(ii) Give the room number, if known, but in any case identify the area well enough so that it can be checked off at the communications center,

(iii) Check with the supervisor for additional areas to search, and

(iv) Repeat the process for any new areas.

b. **Safety precautions during the search.** Search personnel should:

(1) Never search a remote area alone,

(2) Always work with someone close by at all times, and

(3) Be alert for instructions on the public address system.

c. **Discovery of suspicious item.** Should anything suspicious — a piece of baggage or an identifiable or unidentifiable object — be discovered, search personnel should:

(1) Notify the communications center,

(2) Not touch, tilt, or tamper with an explosive or suspected explosive,

(3) Not attempt to cut or disconnect an electrical wire or connection,

(4) Not smoke,

(5) Not put the object in water,

(6) Not use a two-way radio near a suspected object or package,

(7) Not take for granted that a package is harmless just because it has been sent through the mail,

(8) Not stop searching on discovery of a suspicious object, *for it may be a decoy*, and

(9) Report every object to the supervisor and continue the search until operations control terminates it with a message over the public address system.

16. POLICE PROCEDURES FOR UNATTENDED/SUSPICIOUS ITEMS. When an unattended/suspicious item is reported, the airport police department's response should be divided into six phases.

a. **Phase I: Report of Unattended/Suspicious Item.**

(1) **The duty police commander should:**

(i) Establish an unattended/suspicious item control center in the airport police station,

(ii) Direct the duty sergeant to report to the location of the item and establish control on the scene, and

(iii) Direct the communications center to alert the EOD team and the airport operator.

(2) **The duty police sergeant should:**

(i) Proceed to the location of the unattended/suspicious item and establish control of the area,

(ii) Clear the immediate area around the item to a safe distance if necessary,

(iii) Report to the police commander, according to the following guidelines:

(A) Communications from the scene should be by telephone if at all possible,

(B) The use of portable radios for transmission should be kept to a minimum, and

(C) If necessary, transmissions should be made at least 50 feet away from the unattended/suspicious item, and

(iv) **Request:**

(A) EOD response,

(B) Necessary police support to isolate the area around the item, and

(C) Operations to page the owner of the item, asking him or her to report to the location and claim it.

b. Phase II: Initial Notification.

(1) The duty police commander should direct the communications center through initial notification and request EOD response.

(2) The police desk officer should:

(i) Contact the tower and request it to activate the emergency phone circuit and announce: "An unattended/suspicious item procedure is in effect at (location)," and

(ii) Announce over the emergency public address system: "Attention please. Will the owner of (description of the item) left at (location) please return to claim it." This announcement should be made at least three (3) times.

(3) Communications center personnel should:

(i) Note in the communications log the time of the emergency phone circuit announcement, and

(ii) Over the airport's radio frequencies,

(A) Announce that the unattended/suspicious item procedure is in effect, and

(B) Cite the item's location.

(4) The duty police sergeant should remain at the scene and continue to update the situation for the police commander.

(5) The airport operations officer should acknowledge receiving the procedure implementation announcement and remain available to respond if the item is determined to be a bomb threat.

(6) The fire department officer-in-charge should acknowledge receiving the procedure implementation announcement and stand by to respond as necessary.

c. Phase III: Item Claimed by Owner.

(1) The duty police sergeant should notify the duty police commander that the owner has claimed the item and the procedure is terminated.

(2) The duty police commander should notify the communications center that the procedure has been terminated.

(3) Communications center personnel should:

(i) Call EOD team headquarters, terminating the request for assistance, and

(ii) Announce over the airport's radio frequencies that the unattended/suspicious item procedure has been terminated.

(4) The police desk officer should request the tower to announce over the emergency phone circuit: "The unattended/suspicious item procedure has been terminated."

d. Phase IV: Response by the EOD Team.

(1) The duty police sergeant should:

(i) Insure in advance that the EOD team will have unobstructed access to the item,

(ii) Inform the duty police commander of the arrival of the team, and

(iii) Coordinate efforts with EOD team in adjusting the exclusion area.

(2) The duty police commander will inform the airport operator of the arrival of the EOD team.

e. Phase V: Determination of Status of Unattended/ Suspicious Item.

(1) Item cleared. If the EOD team arrives on the scene and clears the item, then:

(i) The duty police sergeant should:

(A) Notify the duty police commander of the situation and terminate the alert, and

(B) Turn the item into lost-and-found or dispose of it.

(ii) The duty police commander should notify the communications center that the procedure has been terminated.

(iii) Communications center personnel should announce over the airport's radio frequencies that the procedure has been terminated.

(iv) The police desk officer should request the tower to announce over the emergency phone circuit that the procedure has been terminated.

(2) Item not cleared. When the EOD team determines the item to be unsafe, then:

(i) The duty police sergeant should notify the duty police squad commander that the item checked out unsafe.

(ii) **The duty police commander should:**

(A) Immediately notify the airport operator, and

(B) Direct the communications center to notify the fire department officer-in-charge and have equipment respond to the building entrances and exits nearest the area where the item is located.

(iii) **Communications center personnel should:**

(A) Announce over the airport's radio frequencies, "AN ALERT is in progress at (location)," and

(B) Notify appropriate personnel and agencies.

(iv) **The airport operator should report to the scene and coordinate activities with the duty police sergeant and EOD team commander on those areas that should be evacuated.**

(v) **The duty police sergeant should:**

(A) Notify airlines, tenants, and concessionaires in the area of the unsafe item that the item has been identified as a bomb threat and that they should assist emergency efforts by evacuating their locations, and

(B) Determine a course of action for disposing of the suspicious item in collaboration with the EOD team commander.

(vi) **The fire department officer-in-charge should send appropriate firefighting and rescue equipment to the designated location and stand by for further instructions.**

f. Phase VI: Termination of Alert. After the item is cleared by the EOD team, the alert will be terminated by the same action as that outlined in Phase III.

17. DANGEROUS CARGO. An aircraft carrying explosives or other dangerous cargo may occasionally request clearance to land at the airport for reasons such as the need to refuel or switch shipments.

a. Arrival. Although the aircraft's arrival cannot be classified as an emergency, it should be treated as an "accident about to happen" with potential emergency consequences. Therefore, the arrival of such a cargo on an aircraft should:

(1) Have the approval of the airport operator, and

(2) Be handled in a way that keeps all exposure of facilities, equipment, and personnel to an absolute minimum.

b. Response.

(1) **Control tower.** An aircraft carrying explosive material or devices usually will contact the tower considerably in advance of its estimated time of arrival. When notification arrives, the tower should:

(i) Notify the communications center of the incoming (explosive-carrying) aircraft, giving all known information such as estimated time of arrival and nature of explosive material or devices, and

(ii) Direct the aircraft to taxi to a pre-determined safe area.

(2) **Communications center.** When notified that an incoming aircraft is carrying explosive material or devices, the airport operator should:

(i) Notify the operations director or superintendent of the incoming aircraft and its cargo,

(ii) Notify the fire department with the same information,

(iii) Cooperate with the involved aircraft owner/operator, or his authorized representative, to insure that the aircraft will be parked in a safe area, and

(iv) Notify the police office.

(3) **Fire department.** When notified of the incoming aircraft carrying explosive material or devices, the operator-in-charge should:

(i) Establish an emergency unit that is stationed beside the landing runway and will follow the aircraft to its remote parking area,

(ii) Provide a fire department emergency unit to stand by the aircraft during refueling and unloading or loading of dangerous cargo, and

(iii) Provide a fire department emergency unit to stand by during starting, taxiing, and takeoff of the aircraft carrying explosives.

(4) **Police department.** The police office shall provide surveillance service in the general area of such an aircraft to protect airport property and public safety.

c. The aircraft.

(1) **Approach.** All aircraft carrying hazardous cargo will make an approach, conditions

permitting, and exit the pre-determined safe runway and taxi to the safe area previously designated.

(2) **On the ground.** Every effort must be made to maintain at least 2,000 feet separation between the aircraft carrying hazardous cargo and all other aircraft during ground operation.

d. Military aircraft. Military aircraft with live ordnance aboard will be handled like any other aircraft carrying hazardous cargo, with the exception of its exit runway. The live ordnance aircraft will be parked on a taxiway designated in advance. The taxiway should be as isolated as possible.

SECTION 3. STRUCTURAL FIRES.

18. GENERAL. Structural fires are fires occurring at or in buildings such as terminals and hangars.

19. EMERGENCY PLANS. Emergency plans for structural fires should include:

a. Means to protect persons from exposure to fires in buildings such as the terminal, including means for safe exit,

b. Arrangements to get firefighting services from nearby municipalities where needed,

c. Water tank trucks to support structural fire units,

d. Ambulance services on a standby basis,

e. Firefighting services available to protect FAA and related government facilities on the airport, and

f. Procedures for cutting off power supply switches if the fire occurs near high voltage installations. This procedure not only is necessary for safety but also reduces the possibility of damage to electrical equipment.

SECTION 4. NATURAL DISASTERS

20. GENERAL. An airport emergency plan should be prepared for responding to the types of natural disasters that can occur in the region in which the airport is located.

a. Types of natural disasters. The natural disasters to which airports may be subjected include:

- (1) Storms,
- (2) Floods,
- (3) Earthquakes,
- (4) Hurricanes,
- (5) Tornadoes, and
- (6) Tsunamis (i.e., seismic sea waves).

b. Airport vulnerability. The vulnerability of an airport to a natural disaster will, to a large extent, depend on its geography and climate. Certain types of natural disasters occur in certain areas or "belts." While nothing can be done to avert them, there are actions that can be taken to minimize damage and expedite restoration of aircraft operations.

21. LOCAL METEOROLOGICAL SERVICE. The local meteorological service is responsible for:

- a.** Predicting weather patterns,
- b.** Tracking the movement of storms, and
- c.** Notifying the public of potential danger.

22. AIRPORT EMERGENCY PLAN. Airport operations will generally be impossible for several hours before the storm arrives and for several hours after it passes. Therefore, the airport emergency plan should:

- a.** Outline initial protective measures,
- b.** Detail procedures for shutting down operations in a safe, orderly manner,
- c.** Designate areas of shelter for personnel, and
- d.** Describe procedures for post-storm clean-up and restoration.

23. PUBLIC INFORMATION. Airport operators will find posters, such as "Tornado Safety Rules" and "Hurricane Safety Rules," useful for informing the public about procedures to follow

during natural disasters. The National Oceanic Atmospheric Administration (NOAA) will furnish such posters free as a public service to airports. The posters are attractively designed, contain precise information, and are ideal for placing on bulletin boards.

24. EMERGENCY WEATHER CONDITIONS.

The Weather Service disseminates information on emergency weather conditions that could result in a natural disaster. An emergency response may be necessary if one or more weather conditions that may be determined hazardous is forecast, such as:

- a. Hurricane or other conditions causing high winds,
- b. Heavy rains and/or thunderstorms likely to cause flooding or interrupt electrical power,
- c. Two or more inches of snow, and
- d. Icing.

25. GENERAL PROCEDURES FOR RESOLVING NATURAL DISASTER EMERGENCIES.

a. **Required precautions.** In addition to protecting the lives and physical safety of airport personnel and airport users, precautions should be taken to preserve power throughout the airport and to protect buildings.

(1) **Power and water interruptions.** Power and water interruptions are common during a natural disaster, especially during hurricanes and tornadoes. They are caused either by damage to generating plants or by destruction of transmission lines. Electrical power and water are important not for convenience but also for responding to emergencies, such as fires. Airports located in areas where severe storms occur should take measures to minimize interruptions to power and water supplies, by providing either standby engine generators or dual sources of commercial power for areas and facilities such as:

- (i) Emergency alarm systems,
- (ii) Lighting,
- (iii) Passenger terminals,
- (iv) Airline operations facilities,
- (v) Essential airport computer facilities,
- (vi) Airport water system (deep wells, pumping stations, and water distribution lines), and
- (vii) Refrigeration units.

(2) **Operating crucial airport systems.** Airport operators should assign one or more employ-

ees to operate the crucial airport systems listed above in a (1). They should obtain precise, easy-to-read drawings that map the airport's electrical supply cables and distribution lines. Copies of these drawings should be easily accessible and be in the possession of those personnel designated to operate the crucial systems in case of power outages.

(3) **Protection of buildings.** Specific personnel assignments should be made in the AEP to:

- (i) Collect or secure all loose objects that may be blown about by the winds, and
- (ii) Fill and place sandbags if there is any possibility that the storm may be accompanied by floods.

(4) **Protection of aircraft.** Aircraft owners and pilots have the primary responsibility for the safety of their aircraft. Aircraft on the ground should be:

- (i) Evacuated to airports outside the storm area, or
- (ii) Put under cover or tied down facing into the approaching winds, if evacuation is not possible.

b. **Notification.** Airport operators should create an Emergency Weather Notification List. The List should include all persons and organizations that will participate in any emergency responses during a natural disaster, as well as airlines, aircraft owners, pilots, concessionaires, and other airport personnel. Upon receiving notice of an emergency weather condition, airport operators should in turn direct the communication center to notify immediately all persons and organizations on the List.

c. Responsibilities.

(1) **Airport operator.** The airport operator should:

- (i) Notify all owners of aircraft that are based at the airport or currently on airport grounds,
- (ii) Warn all aircraft pilots en route to the airport,
- (iii) Advise aircraft in flight to divert to an alternate destination,
- (iv) Notify the appropriate emergency response personnel and organizations, and
- (v) Work with Maintenance to coordinate the following airport functions (if necessary):

(A) Maintaining adequate electrical power for all essential airport functions,

(B) Maintaining an adequate water supply for firefighting,

(C) Establishing road blocks and barricades,

(D) Mobilizing maintenance personnel to begin repairs, and

(E) Assessing damage,

(vi) Work with public safety in its emergency efforts, and

(vii) Work with the tower to continue or resume operations.

(2) **Public safety.** The airport's public safety would probably consist of the following:

(i) **Communications.** Under the supervision of the airport operator, notify the people and organizations listed on the Emergency Weather Notification List.

(ii) **Police.** The officer-in-charge should:

(A) Advise the airport operator of conditions on the airport reported by its officers, and

(B) Control vehicular traffic as necessary.

(iii) **Fire department.** As required, the officer-in-charge should:

(A) Oversee department fire, search, and rescue operations, and

(B) Request mutual aid assistance.

(3) **Tower.** The officer-in-charge should:

(i) Report to the airport operator any observed or reported structural, electrical, or other damage,

(ii) Report debris on the airport to the operations officer, and

(iii) Cooperate with the airport operator to continue or resume operations.

(4) **Maintenance.** In cooperation with the airport operator, maintenance personnel should:

(i) Maintain the roadways on the airport,

(ii) Remove debris from runways and taxiways,

(iii) Repair damage to structures on the airport, and

(iv) Maintain the water, heat, air conditioning, and electrical functions of the airport.

(5) **Tenants and aircraft operators.** Tenants and aircraft operators should:

(i) Take precautions necessary to prevent or minimize danger and damage to persons, aircraft, or property within their areas of responsibility, and

(ii) Report all damage, injuries, or deaths to the airport operator.

26. PROCEDURES FOR SEVERAL SPECIFIC NATURAL DISASTERS. Below is a list of several natural disasters and certain actions that should be taken to resolve them. In any natural disaster, when any damage or injury occurs, the emergency procedures for accidents should be followed; proper precautions can help to avoid further damage or injury resulting from severe weather.

a. Thunderstorms and heavy winds.

(1) **Airport operations.** Airport operations personnel should:

(i) Obtain a complete weather forecast every 30 minutes, and

(ii) Notify:

(A) Fire department,

(B) Field maintenance,

(C) Building maintenance,

(D) Electrical maintenance, and

(E) Airport police.

(2) **Field maintenance and building maintenance.** These units should stand by with extra men ready for clean-up and repair, when so directed by the assistant director of aviation/operations.

(3) **Electrical maintenance.** Electrical maintenance should:

(i) Prepare stand-by generators for operation, and

(ii) Stand by with extra men to repair and operate power systems to insure continuity.

b. Hurricane. Airport operations personnel should:

(1) Obtain a complete weather forecast every 30 minutes,

(2) Close the field if necessary, and

(3) Notify:

- (i) Fire department,
- (ii) Field maintenance,
- (iii) Building maintenance,
- (iv) Electrical maintenance,
- (v) The airport police, and
- (vi) All airlines and FBOs.

c. **Tornado.** If tornadoes are sighted in the vicinity of the airport, airport operations personnel should:

(1) Notify:

- (i) All airlines and fixed base operators.

(2) Make a public address announcement in terminal areas with the following advice:

(i) Tornado alert — a tornado is in the area,

(ii) DO NOT PANIC,

(iii) Stay away from glass,

(iv) If inside, get under tables or chairs, and

(v) If outside, go to the parking garage or lie face down in a depression-area, and

SECTION 5. RADIOLOGICAL INCIDENTS

27. GENERAL. If a package containing radioactive materials breaks and spillage occurs, the vehicles or persons that come near or cross through the area may become contaminated. If radioactive material is disturbed, winds or a thermal column from an aircraft fire could carry and spread the radioactive material over a great distance, endangering a wide area.

28. BASIC PROCEDURES. If the radioactive material package is found unbroken, the problem is over as far as radiation contamination is concerned. Such material should be left alone and not moved after an incident except where it is necessary to permit vehicles or personnel access to the incident area. Otherwise, rescue operations should be implemented and executed without delay in the possible presence of radioactivity. Emergency response functional area personnel should:

a. Keep unauthorized persons out of the area by establishing a cordon around the aircraft,

b. Keep all persons except rescue crews out of the area if radioactive material contamination is suspected,

c. Require that rescue crews wear protective clothing and use self-contained breathing apparatus,

d. Close doors and windows of nearby buildings,

e. Use conventional rescue techniques (in general), and

f. Keep persons not performing rescue operations at least 2000 feet away and upwind of the

wreckage where nuclear weapons may be involved or in the absence of specific information about the emergency.

29. RADIATION ACCIDENTS/NUCLEAR WEAPONS. In an aircraft accident involving a nuclear weapon, several hazards may be present that do not occur in the commercial shipment of radioactive materials. Blasts of varying degrees may occur as a result of the detonation of the high explosives in the weapon; toxic or caustic fumes may be given off by burning high explosives — such a detonation would scatter the radioactive material contained in the nuclear weapon; and if radioactive material such as plutonium burns in an aircraft fire, radioactive particles may be carried downwind with the smoke. The well-trained firefighter should be familiar with detonation of high explosives and the presence of toxic or caustic gases. As a matter of information, in case of emergency landings, military procedures require the aircraft commander to notify airports if the aircraft has nuclear cargo on board. For example, these notification procedures indicate:

a. The degree of danger caused by a cargo made up of high explosive bombs, nuclear weapons, or nuclear weapons components or by the flammability of the cargo in the event of a fire or a crash, and

b. The general location of the cargo,

c. The estimated safe time for firefighting if explosives become enveloped in flame, and

d. Other specific precautionary requirements such as:

- (1) Number one engine out,
- (2) Four personnel -- all forward,
- (3) Isolated parking required,
- (4) If explosives become enveloped in flames, detonation expected after 10 minutes,
- (5) Withdrawal distance 2500 feet, and
- (6) Protective clothing and self-contained breathing apparatus required for rescue personnel.

30. DEPARTMENT OF ENERGY (DOE). In the event of incidents involving radioactive materials, radiological emergency assistance can be requested from a DOE office. The DOE may dispatch emergency personnel and equipment from other Federal and state agencies coordinated under an Interagency Radiological Assistance Plan administered by the DOE. Federal agencies participating in this interagency plan include the Department of Transportation (DOT), Department of Defense (DOD), Department of Commerce (DOC),

Department of Health, Education, and Welfare (HEW), the National Aeronautics and Space Administration (NASA), and the Environmental Protection Agency (EPA). Airport operators should plan ahead and contact the DOE Emergency Operations Center and request the assistance of the nearest radiological expert.

a. DOE/DOD Joint Nuclear Accident Coordinating Center. For all accidents believed to involve nuclear weapons and/or military aircraft, airport operators should notify the DOE/DOD Joint Nuclear Accident Coordinating Center, Albuquerque, New Mexico. Airport operators should contact the Center before any incident occurs and request current information on the nearest expert assistance.

b. Notification hints. It helps the persons called upon for advice if the caller:

- (1) Gives as much information as possible about the nature of the incident, and
- (2) Identifies the radioactive material involved.

SECTION 6. CROWD CONTROL AND UNLAWFUL INTERFERENCE WITH OPERATIONS

31. INTRODUCTION. Crowds of people may assemble at the airport for one reason or another and either inadvertently or deliberately disrupt airport operations.

32. NATURE OF ASSEMBLY. The purpose and mental attitude of the assembly may vary considerably. The arrival or departure of popular public figures may attract crowds who will, in most cases, be good-natured and easily controlled. The arrival or departure of more controversial persons may draw groups that are hostile and prone to disorderly conduct.

a. Common reasons for a friendly crowd to assemble at the airport.

- (1) Arrival or departure of VIPs, athletes, or other public figures,
- (2) A welcoming reception given by a new carrier to the terminal,
- (3) The introduction of a new aircraft, and
- (4) Aircraft incidents and accidents.

b. Disruptions for hostile reasons. There are circumstances that bring people to the airport to

protest or vent their anger. Such circumstances may stimulate deliberate attempts to interfere with operations or to commit sabotage -- for instance:

- (1) Arrival of a controversial person or group,
- (2) A period of civil unrest nationally, regionally, or locally, and
- (3) A period of serious international tension.

33. GENERAL PROCEDURES.

a. Friendly crowds.

(1) **Predictable assemblies.** In some situations, airport operators know in advance that a situation is likely to bring friendly crowds to the airport. Through proper planning and experience, appropriate steps may be taken to minimize the effort required to control a friendly crowd.

(2) **Incidents/accidents.** If airport operators were able to obtain the full cooperation of the news media, an airport incident or accident might remain unpublicized long enough for emergency

response personnel to function unhindered. Although an airport incident or accident is likely to attract crowds, there should be no difficulty in keeping crowds behind police lines, particularly when they understand the seriousness of the situation and realize how important their cooperation is.

b. Hostile assemblies. For hostile situations, it is difficult to determine in advance the degree of disturbance that may result at the airport. Therefore, before any specific steps are taken to increase security, intelligence information, which has been received from all reliable sources, must be evaluated. With that input, operators can make decisions concerning the kind and extent of security measures to take.

c. Responsibility. The fundamental responsibility for crowd control rests with police forces. Although the basic planning should be done by the police, airport operators or their designated representatives should retain the authority to implement the plan.

34. SPECIFIC PROCEDURES. The specific actions described below may be used or modified to suit the nature of the potential or actual disturbance. Particular emphasis should be placed on the safety of the public and employees as well as on the safe operation of all aircraft, airport facilities, and airport functions.

a. Procedures for personnel.

(1) Coordination with public agencies. Plans for crowd control and for control of other emergencies that may result from crowds should be coordinated with the procedures of public agencies whose services may be required. The following may be available to provide assistance:

- (i) Local off-site fire department,
- (ii) Local police department,
- (iii) Sheriff's office,
- (iv) State police, and
- (v) State National Guard.

(A) If it becomes necessary to request assistance from the National Guard, operators should communicate and cooperate with the Governor and Adjutant General for National Guard operations.

(B) Supervision for the use of the armed forces of the state (or of the United States) to suppress disorder remains with the civil authority.

(2) Intelligence. The assembly of large crowds rarely occurs so spontaneously that there is no advance warning or time to take action. In times of civil disorder or international tension, airport operators and their staffs should be especially alert to by dissidents. While trained saboteurs will operate with great secrecy, untrained dissidents usually talk, threaten, or boast, and their plans either become known in detail or can be predicted.

(3) Briefings. If appropriate, airport operators should brief airline representatives and other tenants on the actions airport security will take to deal with the anticipated demonstration. The briefing should specify the actions that the airport operator, other agencies, and tenants should take to insure both the safety of the public and the continued operation of the airport.

(4) Use of force.

(i) Friendly assemblies. Persuasion may be more effective than the display of force, which will probably serve only to antagonize certain individuals. Action to control or clear crowds should be firm but friendly.

(ii) Hostile assemblies. The decision to use any degree of force rests with the police authority and should be based on good police practice. Often a mere *show* of force will suffice. The use of force should:

(A) Be the minimum necessary to bring about the desired control or dispersal of the crowd, and

(B) Be applied impartially and objectively.

(5) Airlines. Airlines should use appropriate personnel at ticket counters if any violence or disobedience is anticipated.

(6) Concessionaires and other agencies. Rent-a-car agencies, insurance companies, and bus, limousine, and taxi services should close down their booths before any anticipated violence or disobedience.

b. Procedures regarding equipment.

(1) Aircraft.

(i) Parking.

(A) Aircraft remaining on the ground for an extended time should be hangared during a severe disturbance that poses a threat to their safety.

(B) If hangar facilities are not available for parking, aircraft should be parked in an isolated area. A runway may be closed for the purpose of parking aircraft on it; the choice of runway will depend on conditions during the disturbance. This requirement applies to all aircraft that cannot be hangared, both commercial and general aviation.

(C) The aircraft should be locked when possible. In the case of transport aircraft, the engines should be protected with pad covers - both front and back - to the extent possible. All latchable but non-lockable accesses (e.g. electronic bay access, cargo doors) should be "sealed" in a manner that will indicate if any tampering/entry has taken place. In a serious threat situation, involving threats from a terrorist group of suspected advanced threat capability, consideration needs to be given to the serious vulnerability of a symmetrical lineup of aircraft as references on a closed runway. Sufficient lighting from multiple angle is necessary to assure positive surveillance capability on the parts of the guards.

(ii) **Obstructions.**

(A) If civil disobedience interferes with an aircraft in the process of landing, the aircraft will be diverted.

(B) If civil disobedience interferes with an aircraft taxiing or parked at a gate, it should be diverted to a safe holding area.

(2) **Fuel truck parking and fuel deliveries.**

(i) Fuel trucks should be parked on the outermost terminal taxiway, each spaced 100 feet from the other. If that area happens not to be available, another remote area should be selected.

(ii) Fuel deliveries to storage areas should not be permitted during the anticipated period of the demonstrations.

(3) **Fire department apparatus.** Fire department apparatus should be deployed to selected locations throughout the airport and will be readily available to respond as required.

(4) **Taxis.** Depending upon the nature and area of the demonstrations, dispatchers and cabs may be diverted off the airport.

(5) **Ambulance service.** Ambulances should be available through local mutual aid agreements.

(6) **Mechanized vehicles.** Vehicles required to be on the ramp should park 50 feet from

any building and 20 feet from the next mechanized vehicle. Where possible, vehicles should be hangared or dispersed.

c. **Procedures regarding facilities.**

(1) **Security.** Fences will help to keep out gatherings of friendly people coming to see the arrival or departure of a popular figure; such crowds will normally use entrance roads and pass through entrance gates. Fences will help keep out most hostile people as well, but it is advisable to secure less obvious means of entry such as underground service ducts, sewers, and tunnels. In times of tension, regular patrols of the perimeter fences should be established. Access control systems (e.g. computer controlled card readers) if required by FAR Part 107 will help secure the airport airside.

(i) **Types of fences.** The following fences will stop all but the most determined; however, they are not considered completely intrusion-proof:

(A) Chain link with barbed wire at the top,

(B) Steel rod, and

(C) Security. The vital and sensitive installations such as power vaults, fuel tank farms, and communications centers may require security fences supplemented by guards or alarm systems.

(ii) **Vulnerable locations.** Vulnerable locations include:

(A) **Ramp entrances/exits.** All ramp entrances and exits should be closed. One entrance or exit may be kept open depending upon the degree of security required. A security guard with radio communications will be stationed at access and other critical points for surveillance.

(B) **Fuel farms.** In order to minimize fire hazards, fuel farms should be secured until the period of expected violence has passed.

(C) **Areas between parking lots and terminals.** It is advisable to control the automobile parking lots and the pathways between the lots and the terminals.

(2) **Lighting.** Lighting should be provided around buildings that house critical facilities. At entrance gates, the lighting should be bright enough to permit guards to identify persons and inspect identification cards. Controls and power sources should be installed where they are inaccessible to unauthorized persons. Floodlights mounted on airport emergency or service vehicles may be

used for patrolling fences in times of disorder. Authorized personnel should regularly check that field, ramp, taxiway, terminal, and roadway lighting is functioning properly. Portable floodlights may be used to provide positive surveillance capability at those areas used on an infrequent or temporary basis.

(3) Building and ramp security.

(i) **Emergency entrances.** All ramp emergency entrances should be secured.

(ii) **Gates.** Gates should be locked except during actual enplaning and deplaning operations. In critical areas, guards should be posted. Only properly identified and authorized persons such as airline personnel, owners or pilots of general aviation aircraft on the field, airport staff, security, emergency response personnel, and passengers should be permitted to pass through check points.

(iii) **Tenant security.** Tenant security should be increased commensurate with the anticipated problem. All office doors should be closed and, if practical, locked when tenant employees are working inside. During off-duty hours, all doors should be locked.

(iv) **Burglar alarm systems.** Burglar alarm system specifications have been developed by various manufacturers and listed with recognized testing laboratories. For obvious reasons, the information on burglar alarm systems should be closely controlled.

d. Procedures for unit managers and other departments.

(1) Law enforcement and security agencies.

(i) Such agencies should:

(A) Assume the basic responsibility for protecting the lives and safety of the public; to do so, they should quell and control civil disturbances and violence,

(B) Give due consideration to the rights of individuals and the protection of private property,

(C) Survey the airport if information has been received or publicity provided in advance of potential civil disobedience. In such cases, all airport areas will be inspected and checked for weapons to insure that they are not stored for later use:

(1) Lockers, vehicles, and trucks that are strategically located or suspicious should be inspected, and

(2) Rocks and construction equipment that could be used as weapons should be noted so that proper action may be taken for their removal.

(i) In carrying out these responsibilities, security should augment its regular force with additional officers if intelligence reports, type of demonstration, and anticipated militancy warrant doing so. Officers may be detailed to perform the following functions, as required:

(A) Guard gates and entrances to the airfield,

(B) Guard tower building,

(C) Guard power plant,

(D) Assist fire department,

(E) Assist staging area and command post personnel,

(F) Secure electrical sub-station,

(G) Distribute communications equipment,

(H) Type duty rosters,

(I) Assist first-aid team,

(J) Help meet feeding and housing needs,

(K) Assign heavy weapons and gas equipment,

(L) Distribute special equipment to insure that officers are properly protected,

(M) Insure that proper information is passed to each squad leader, and

(N) Assist the arrest team in:

(1) Booking,

(2) Photographing,

(3) Separating juveniles, and

(4) Reading of an arrested individual's rights.

(2) Operations manager. The operations manager should:

(i) Insure that his or her section is fully staffed and augmented by an airline representative who may serve as the coordinator of airline/airport activities,

(ii) Prepare and distribute, at least 24 hours before the potential disturbance, an updated list of tenants that includes agencies' phone numbers, coordinators' names, hospitals' phone numbers, and airport emergency telephone numbers,

(iii) Insure that a typist is available to record the radio messages and pertinent telephone calls in the daily log,

(iv) Review all applicable directives and insure that all operations personnel fully understand their duties and responsibilities, and

(v) Coordinate activities with the FAA tower personnel and advise them of vehicle, aircraft, and other dispersal and security actions taken or planned.

(3) Field maintenance manager. The field maintenance manager should:

(i) Insure that all vehicles not in use are:

(A) Stored in the field maintenance building with all doors secured, or

(B) Dispersed throughout the airfield, preferably on a closed runway to taxiway, if space is not available in the field maintenance building,

(ii) Insure that all entrances and exits to the ramps are secured,

(iii) Have sufficient personnel and equipment available for emergency clean-up and for re-opening closed entrances and exits,

(iv) Be prepared to disperse radio-equipped vehicles throughout the airport,

(v) Provide manned radio-equipped vehicles, which may act as an airfield security patrol, and

(vi) Report any unusual occurrences directly to airport operations.

(4) Building maintenance manager. The building maintenance manager should:

(i) Insure that all observation decks are secure,

(ii) Provide a double check system to insure that all electrical and mechanical rooms are policed and secure,

(iii) Check all gate and emergency doors to insure that they are locked, except during actual enplaning and deplaning operations,

(iv) Report any doors found open to the operations supervisor immediately, who should report this information to the tenant concerned,

(v) Secure all doors to the heating plant, pumping station, electrical sub-station, and building maintenance area,

(vi) Clean up debris, coordinating cleaning activities with those of the airlines or of the airport's contractor cleaners,

(vii) Deploy additional building maintenance personnel throughout the terminal and general aviation areas, heating plant, and electrical sub-station, as required, to observe and report any unusual actions directly to operations,

(viii) Position on the airfield one electrician and a helper, who will remain in radio contact with the tower and operations and who will respond to any electrical problems on the airfield,

(ix) Schedule sufficient building, electrical, and maintenance personnel to meet anticipated needs, and

(x) Insure that vehicles not in use are secure in the building maintenance garage.

(5) Fire department officer-in-charge. Normally, during peak periods of demonstrations and anticipated civil disobedience, fire department personnel and equipment will be dispersed equally throughout the ramp area. The fire department officer-in-charge should:

(i) Disperse firefighting equipment and personnel, commensurate with the degree of security required,

(ii) Maintain vehicles and their radio equipment in top working order so that firefighters can respond immediately,

(iii) Insure that the fire department building is locked and secured,

(iv) Assign one firefighter to monitor and handle the radio-telephone equipment and record necessary data,

(v) Stand by at the fire department or station and be available for immediate response if a lower degree of security and status is required, and

(vi) Alert the organization(s) designated to provide ambulances to stand by with a sufficient number of ambulances.

SECTION 7. FUEL AND OTHER CHEMICAL FIRES

35. INTRODUCTION. This section suggests general planning procedures, facilities, and equipment for use by the airport operator to cope with fires from fuel spills and from chemical sources.

36. SOURCES OF FIRES.

a. Fuel fires. Fuel fires that can occur at an airport have a number of likely sources:

- (1) Ruptured aircraft fuel tanks,
- (2) Leaking fuel hoses,
- (3) Leaking or overturned tank trucks, and
- (4) Tank forms.

b. Fuel tank or fuel line fires. Fuel tank or fuel line damage occurs in accidents during takeoff and landing as a result of:

- (1) Impact with obstacles, or
- (2) Landing gear rupturing a tank during impact.

(i) When the aircraft with a ruptured fuel tank comes to a stop, the fuel forms a pool adjacent to or under the aircraft. Ignition of this fuel produces an extremely large, hot flame.

(ii) If a separation has occurred in the fuselage or a door is inadvertently opened, the aircraft's interior materials are then subjected to a high heat flux and may ignite. The effect that these burning materials have on survivability and evacuation is related to the severity of the crash. Full-scale tests have shown that a relatively small fire of interior materials can quickly fill an entire cabin with a dense black smoke.

c. Fires resulting from wing separation. Wing separation occurs when an aircraft either undershoots an approach or fails to remain airborne during a takeoff. The aircraft then collides with structures, separating a wing and releasing large quantities of fuel.

d. Combustible or hazardous chemicals. Despite strict regulations, combustible or hazardous chemicals transported by aircraft can leak or spill, creating immediate emergencies.

e. Fires from other sources. These sources include:

(1) **Materials likely to feed a fuel fire.** The materials listed below are usually stored in large quantities at large airports. The danger of fire from these materials is small compared to that from fuel fires. Nevertheless, care should be taken because they could feed a fuel fire if ignited:

- (i) Lubricants,
- (ii) Greases, and
- (iii) Glycols.

(2) **Ignition sources.** Wherever possible, ignition sources should be controlled immediately by cutting off power -- e.g., turning off engines and shutting off electrical switches. Some common sources are:

- (i) Exhaust flames,
- (ii) Welding operations,
- (iii) Friction, and
- (iv) Electrical shorts.

37. RESPONSE.

a. Fires. Immediate action by the on- or off-site ARFF unit is imperative when a fire of any size occurs.

b. Spills. Immediate action is imperative for spills, even small ones that measure less than six feet in diameter. Small spills can become large fires if action is delayed and the spill subsequently ignites. Only persons duly qualified to fight fuel spill fires should be permitted in the area of a spill. They should wear the specified protective clothing. Actions in response include:

- (1) Monitoring the spill area,
- (2) Summoning the ARFF unit,
- (3) Beginning immediate efforts, in conjunction with airline or service operations officials, to contain and clean up the spill, and
- (4) Notifying the proper local authorities who are trained to cope with a combustible or chemical spill.

APPENDIX 2—MEDIA RELATIONS

1. INTRODUCTION.

a. **Informing the public.** As if resolving an emergency were not difficult enough, airport operators will almost invariably have to deal with the media during the emergency. Nevertheless, airport operators should remember that the media are doing their job in informing the public.

b. **Handling crowds.** Arrangements must be made to handle the news media and also the large crowds of the curious and the concerned who gather at the first announcement of a possible disaster. News of a potential emergency landing should be withheld from the public until there is no danger that aircraft rescue and firefighting operations will be interfered with.

2. **PROCEDURES FOR AN EMERGENCY.** Operators can establish successful relations with the media by following several steps:

a. **Be prepared.** Before airport operators or spokespersons arrive at the scene, they should spend a few minutes preparing a short statement.

(1) They should try to have as many facts as possible (although the pressure and confusion of an emergency may make it difficult to do that).

(2) A little forethought can go a long way; operators should be able to predict many of the questions the media will ask.

b. **Select a suitable site.** The site for the media conference should be:

(1) A place whose background does not include scenes of death and destruction, which exacerbate journalistic tendencies towards sensationalism and may compound legal problems, and

(2) A place separate and preferably distant from the command post.

c. **Arrange to have press identification checked.** The operator or an operations representative should check media personnel to make sure they have proper identification. Anyone failing to produce proper identification should not be permitted to hear the briefing.

d. **Control the questioning.** Call on questioners individually.

e. **Project a professional image.** Operators or their spokespersons should:

(1) Remain calm,

(2) Show neither fear nor frustration,

(3) Be appropriately serious (e.g., not chewing gum, smoking, or fidgeting),

(4) Address reporters respectfully,

(5) Avoid hearsay, speculation, and incomplete information by:

(i) Sticking to the proven facts.

(ii) Saying, "I don't know" or "No comment" when appropriate — i.e., in the interests of fairness and accuracy, especially because the investigation will not have been completed at the time the spokesperson speaks to the media, and

(6) Stay strictly "on the record," because, according to the Code of Ethics of the Radio and Television News Directors Association, journalists may violate a confidence if they feel it is in the public interest.

f. **Refrain from accepting responsibility for the accident.** Such an admission can affect claims or future litigation.

3. **RESPONSIBILITY FOR NEWS RELEASES.** In general, responsibility for news releases concerning an emergency should be that of:

a. The representative of the airline(s) involved, or

b. The senior military officer present or the public relations officer of the installation on which the aircraft is based, if the emergency involves a military aircraft or its cargo.

4. PROCEDURES FOR A DRILL.

a. **Informing the media and public.** To assure that a drill neither causes panic nor becomes mistaken for an actual emergency, airport operators and drill planners should inform the media and the

public of the exact time, place, and purpose of the drill several times before it takes place. A convenient way to inform them is to issue a press release. Newspapers will use the press release as the basis of their own notices about the drill. See the sample press release attached.

b. **Public relations.** In the interests of creating or maintaining satisfactory relations with the media and with the public, drill planners should invite the press to observe the drill.

SAMPLE PRESS RELEASE

ANYTOWN MUNICIPAL AIRPORT

Date:

Telephone (AC)
3000 Aviation Way
Anytown, STATE 00000

FOR MORE INFORMATION:

(Name)
(Title, if any)
(Phone Number)

Executive Director:

Subject: Airport Emergency Drill

Anytown Municipal Airport in cooperation with numerous airport and community agencies will conduct a practice emergency exercise on Saturday morning, October 23, 1988. The exercise is intended to allow cooperating businesses, hospitals, fire, police, and emergency preparedness officials, as well as airport personnel, to practice their emergency roles in response to a simulated aircraft emergency.

The practice exercise has been named "Operation Big Bird '88" and the agencies involved will take

part in simulating their duties called for in the Airport Emergency Plan.

Citizens should expect to see smoke in the skies near the airport and to see fire trucks, ambulances, police cars, and other official traffic engaged in the practice exercise. Residents near the airport are cautioned not to be alarmed by this activity.

The airport's first emergency exercise was conducted in July of 1987 and proved to be a great success as well as a good learning and training experience for those involved.

APPENDIX 3—EMERGENCY EQUIPMENT

ITEM	DESCRIPTION
a. Aircraft Rescue and Firefighting	
ARFF Trucks	1500 to 3000 gallon water capacity with ARFF and Halon capability. Top-mounted turrets and pumping capacities up to 1500 gallons per minute.
Hand-held Halon fire extinguishers	Halon charged fire extinguishers for vehicle/boat/aircraft use. Noncorrosive, non-fogging halon agent useable on Class B (flammable liquids) and C (electrical) fires. Approximately 3 pounds.
High Mobility ARFF Truck	1500 gallon water capacity, with articulated body/frame permitting traverse of rough terrain.
Rapid Intervention Vehicle	High speed ARFF vehicle designed for rapid but limited fire response. Modified light truck or small ARFF vehicle with water/ARFF and Halon nozzles upward to the height of centerline aircraft engines.
b. Water Rescue	
Amphibious Fireboat	Amphibious firefighting vehicle capable of 25-30 mph on land and 8 mph in water. Useful for rough terrain, steep slopes, flooded areas, and bodies of water.
Dragging and Underwater Rescue Equipment	Underwater dragging bar, hooks, and lines useable for locating underwater objects.
Flotation Platforms	Large, inflatable rafts in carrying pouches. All extra equipment removed to provide lightweight means of keeping up to 20 people afloat until rescue units can arrive. Delivered to water accident sites by boat or aircraft.
Helicopter Rescue Nets	Netting "basket" with frame. 1-2 person capacity. Useable from helicopters as means for extracting people from the water.
Inflatable Boat	Shallow draft, rigid inflatable boat with diesel power and water jet propulsion. 30 mph speed and 22-to-28 foot lengths. Approximate load of 15 persons.
Other Equipment	Area maps and charts, bailing bucket, blankets, bull horns, communications equipment, emergency lights, flares, forcible entry tools, grappling bars and hooks, life rafts, medical kits, navigational equipment, portable resuscitation equipment, portable 500W floodlights, rescue nets, scuba gear, stretchers/litters, throwing equipment, and wheelchairs.

Shallow Draft "Air Boat"	7-8 foot wide and 13-20 foot long boat propelled by aircraft or auto engines driving aircraft-like propellers. Larger models can carry approximately 2200 pounds of payload, such as people or water rescue and medical equipment. Requires a single operator. Operates at speeds up to 50 MPH in extremely shallow water, tidal flats, marshes, and snow.
c. Medical/First Aid	
Backboards (Disposable)	One inch thick, water resistant cardboard backboards.
Body Splints	Narrow, plastic, whole-body splints useable as backboards in confined areas such as aircraft interiors.
Burn Sheets	Sterile, disposable sheets for treatment of burns.
Casualty Simulation Kits (Moulage)	Makeup and wound simulation materials suitable for use in emergency drills. Kits range from basic to advanced injuries.
Disaster Pouch (Body Bag)	Disposable vinyl bags (90" x 72") with zipper.
Medical Kits	Pre-packed Emergency Medical Service kit. 16-26 pounds. Portable.
Other Equipment	Blankets, emergency lights, stretchers/liters, and wheelchairs
Portable Defibrillator	Compact, computerized heart defibrillator allows automatic diagnosis and treatment of cardiac arrest. Training permits use by non-medical personnel.
Triage Tag	Color-coded, multipart tag used for marking survivors for degree of critically of injury. Provides record of identification and vital signs. Airport or standard format.
d. Communications	
Public Address Unit	Vehicle mounted PA unit.
Tone Encoders	Addition to mobile and hand-held radios limits message reception to other encoded radios.
Aircraft Band Radio (Portable)	Hand-held "walkie-talkie," 1-6 preset channels use aircraft frequencies.
Aircraft Band Radio (Mobile)	Vehicle-mounted aircraft frequency radio with 12 preset channels. Vehicle-mounted aircraft frequency radio with 720 tunable frequencies.
High Band Radio (Portable)	Hand-held "walkie-talkie," 4-6 channels (143-174 MHz), rechargeable.
Mobile Radio	High band (143-174 MHz), vehicle mounted 2-channel radio.
e. Crowd Control	
Barricade Tape	Fluorescent/Reflective 3-inch wide plastic tape with repeating label "Police Line" or "Restricted Area." 1,000 foot-rolls.
Barriers	Interlocking metal sections like a fence 7 1/2 feet long and 3 1/2 feet high. Approximately 33 lbs. weight.

f. Lighting

Portable Light Stands	Free-standing, high-intensity flood lamps that are tripod-mounted. 2-4 lamps @ 500-1,000 watts each. Powered by separate generator.
Portable Lighting/ Generator Trailers	Trailer-mounted generator with pole-mounted flood lamps. Poles extend to approximately 30 feet. Generators are 4- 6 kilowatts with 2-6 lamps. Generator can power other electrical equipment, on-site, and can serve as emergency electrical power.
Rechargeable, Hand-held, Spotlight	Hand-held, high-intensity spotlight. Rechargeable from building or vehicle electrical sources. 6-8 hour light duration. 1,500-2,000 foot

g. Aircraft Forcible Entry/Removal

Extraction Tool	Portable hydraulic or electrically-powered cutting/spreading tool package for moving or removing wreckage to gain access to vehicle or building interiors.
Other Equipment	Air compressor (portable), cutting torch, heavy duty chain, heavy duty forklift, heavy duty line, heavy duty tractor, heavy duty tug, jacks (various sizes), pry bars, ramp dolly wheel, steel plates, and towing bars.
Pneumatic Lifting Bags	Large, high-pressure air bag system useable for lifting aircraft. Weight-bearing capacity of 48-300 tons.

h. Miscellaneous Equipment

Computerized Emergency Information	Portable computer system with program for allocating and tracking emergency resources during rescue, evacuation, and treatment.
Crash Rescue Tool Kit	Basic rescue tool set useable for aircraft emergencies.
Emergency Service Literature	Various books on the subject of emergency response, mass casualty treatment, legal aspects of emergency medicine, etc.

APPENDIX 4—ORGANIZATIONS INVOLVED IN EMERGENCY RESPONSE PLANNING AND/OR PROVIDING EMERGENCY RESPONSE SERVICES

AMERICAN PSYCHIATRIC ASSOCIATION (APA)

1400 K Street, NW
Washington, DC 20005

a. **General.** The APA is a society of medical specialists concerned with the study of psychiatry, the search for more effective application of psychiatric knowledge to combat mental illness, and the promotion of mental health for all citizens.

b. **Publications relevant to airport emergencies.**

(1) In 1964, the APA prepared a booklet, "First Aid for Psychological Reactions in Disasters," which describes characteristic behavior during the different phases of a disaster, four principles of behavior one who intends to help an emotionally disturbed person should know, and some practical suggestions for applying those principles.

(2) The APA also published a book entitled *Terrorism: Interdisciplinary Perspectives*. It is a collection of reports from professionals in the fields of psychiatry and law enforcement who have experienced terrorism and developed philosophies and methods for coping with it.

c. **APA branches.** There is a district branch of the APA in nearly every state.

THE AMERICAN RADIO RELAY LEAGUE, INC. (ARRL)

2225 Main Street
Newington, CT 06111

a. **General.** The ARRL was established by radio amateurs more than 65 years ago. It functions today through a Board of Directors elected by members in 16 US and Canadian geographic divisions; its staff consists of about 120 people. Newington, Connecticut is also the headquarters for the International Amateur Radio Union (IARU), which comprises similar societies in over one hundred countries.

b. **Activities.** The ARRL:

(1) Maintains an active technical information service,

(2) Coordinates an extensive field organization, and

(3) Represents U.S. amateurs with the Federal Communications Commission (FCC) and other government agencies here and abroad.

c. **Assistance.** Through the League's Amateur Radio Emergency Service network, Section Emergency Coordinators and local Emergency Coordinators may be called upon for any assistance they can render in emergencies, particularly emergency communications, or they may call upon the local airport for assistance as required.

AMERICAN RED CROSS, National Headquarters Washington, DC

a. **General.** Congress has chartered the American Red Cross as the nation's official voluntary disaster relief agency. The objective of the Red Cross disaster program is to meet human needs in disasters. The program applies to all natural disasters and to disasters involving catastrophic transportation accidents.

b. **Assistance in an emergency.** In a transportation emergency, the Red Cross limits its aid to survivor assistance but provides as much aid as the individual situation seems to require. At no time will Red Cross assistance interfere with the activity and responsibility of the National Transportation Safety Board, other governmental agencies, or the carrier's responsibility for customer service and public relations. Basically, the Red Cross provides assistance as follows:

(1) **Emergency care.** During and immediately following a disaster, the Red Cross provides emergency care for victims and emergency workers. The Red Cross provides assistance as an outright gift. Aid may include:

- (i) Food, clothing, and shelter,
- (ii) First aid and medical care,
- (iii) Blood and blood products for the injured,
- (iv) Transportation,
- (v) Communications with families,
- (vi) Professional and volunteer staff to augment hospital staffs during the emergency, and
- (vii) Assistance in meeting a wide variety of personal needs.

(2) **Additional needs.** The Red Cross also helps provide the necessities that victims need to resume normal family living. The Red Cross may meet additional needs if other resources are not available. The Red Cross does not provide long-range recovery assistance when company or owner liability is involved; however, emergency needs mentioned in the preceding paragraph will still be met.

(3) **Assistance to commercial carriers.** When a disaster involves commercial carriers, the Red Cross respects the desire of the carriers to provide primary assistance and works with them to provide services to survivors, families of victims, emergency workers, search and rescue crews, and representatives of the carriers and official agencies involved.

c. Reference literature. Further details of the services provided by the Red Cross and a synopsis of the statement of understanding between the American Red Cross and the National Transportation Safety Board appear in the Red Cross flyer entitled, "Services in Time of Transportation Mishaps."

d. Coordination of services. American Red Cross disaster relief and preparedness efforts are coordinated by Disaster Services, national headquarters, Washington DC, through four field offices:

- (1) Alexandria, Virginia,
- (2) Atlanta, Georgia,
- (3) St. Louis, Missouri, and
- (4) Burlingame, California.

CHEMICAL TRANSPORTATION EMERGENCY CENTER (CHEMTREC)
Washington, D.C. 20037

a. General. Financed and operated by the Chemical Manufacturer's Association (CMA), CHEMTREC is recognized by the U.S. Department of Transportation as the official emergency service for responding to incidents involving the transportation of hazardous materials. CHEMTREC operates its toll-free telephone number 24 hours a day, 7 days a week.

b. Services.

(1) In a transportation emergency, CHEMTREC:

(i) First provides immediate advice to callers anywhere on how to cope with chemicals involved, and

(ii) Then notifies suppliers of the chemicals so that they can take appropriate follow-up action.

(2) Although its primary responsibility relates to transportation, CHEMTREC also assists in a range of other chemical and hazardous materials emergencies.

c. Publication. CHEMTREC publishes the *Emergency Response Guidebook* annually.

CIVIL AIR PATROL (CAP)
Department of the Air Force
National Headquarters - USAF (AU)
Maxwell Air Force Base, AL 36112

a. General. The Civil Air Patrol is a non-profit corporation established by Congress in 1941. It functions as a civilian auxiliary of the U.S. Air Force. Its services are voluntary, benevolent, and noncombatant.

b. Emergency service. All CAP personnel who participate in emergency relief are specially trained. The CAP flies missions to:

- (1) Evacuate the injured, and
- (2) Speed life-saving supplies to otherwise inaccessible areas.

DISASTER RESEARCH CENTER (DRC)
Department of Sociology, The Ohio State University
128 Derby Hall
154 N. Oval Mall
Columbus, OH 43210

a. General. The DRC engages in sociological research on group and organizational prepara-

tions for responses to and recovery from community-wide emergencies, particularly natural and technological disasters.

b. Research.

(1) **Description.** DRC research presents information about group behavior and social life in large-scale community crises and practical information for developing more effective plans for future disasters.

(2) **Sources.** The DRC collects data through in-depth interviews, participant observations, and document-gathering. It also serves as a repository for materials collected by other agencies and researchers. Its specialized library contains books, periodicals, and reports on socio-behavioral aspects of disasters and is open to all interested scholars and public and private agencies involved in emergency planning.

EXPLOSIVE ORDNANCE DISPOSAL CONTROL CENTER (EODCC)

(Airport operators should contact the nearest EODCC for the location of the Explosive Disposal Detachment (EOD) nearest to their airports).

a. General. EODs, or Army Bomb Squads, have been established to resolve threats caused by bombs and other explosive devices. Neither the Centers (EODCCs) nor the detachments (EODs) conduct searches for bombs or other explosives; they dispose of explosives. They do, however, train appropriate personnel to conduct searches.

b. Services relevant to airport emergencies. In order to prepare their airports for bomb threats and other emergencies involving explosives, airport operators are urged to contact their regional EODCC and local EOD before any such emergency occurs. The local EOD can provide useful guidance for each particular airport in preparing responses to bomb threats. EODs will:

(1) Train military personnel, Defense Civil Preparedness Agency (DCPA) personnel and civil authority personnel to recognize military explosive devices and conduct searches,

(2) Provide:

(i) Assistance to public safety and law enforcement agencies (civil authorities) in developing a capability to deal with the threat posed by an

improvised explosive device (i.e., homemade explosive), and

(ii) Bomb disposal service in the interest of public safety, when necessary, and

(3) Conduct explosive ordnance disposal "bomb and sabotage" training for civil preparedness, law enforcement, fire protection, and other public officials.

c. List of military EODCC's, followed by states for which each Center is responsible.

(1) EODCC

542nd Ordnance Detachment
Fort Dix, NJ 08640

Connecticut, Massachusetts, Maine, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

(2) EODCC

543rd Ordnance Detachment
Fort Leonardwood, MO 65473

Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, and Wisconsin.

(3) EODCC

546th Ordnance Detachment
Fort Sam Houston, TX 78234

Arkansas, Colorado, Louisiana, New Mexico, Oklahoma, Texas, and Wyoming.

(4) EODCC

547th Ordnance Detachment
Fort Gillem, Forest Park, GA 30050

Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee.

(5) EODCC

548th Ordnance Detachment
Presidio of San Francisco, CA 94129

Arizona, California, Idaho, Montana, Nevada, Oregon, Utah, and Washington.

(6) EODCC

549th Ordnance Detachment
Fort George F. Meade, MD 20755

Delaware, Kentucky, Maryland, Military District of Washington, Ohio, Virginia, and West Virginia.

**FEDERAL BUREAU OF INVESTIGATION (FBI)
U.S. DEPARTMENT OF JUSTICE
Washington, D.C.**

a. **General.** The Bureau has jurisdiction over Federal violations and suspected violations.

b. **Activities related to aircraft and airports.** Among the airport violations the FBI investigates are:

(1) **Hijacking.** A primary concern of the FBI, hijacking is a criminal offense occurring aboard an aircraft. The hijacker is someone who interferes with the flight crew's scheduled operation to the extent that scheduled is disrupted. For example, if a passenger's action (e.g., molesting a flight crew member) causes the plane to change its scheduled operation, the action may be a Federal offense.

(2) **Narcotics (drug trafficking).**

(3) **Interstate theft.** The theft of an interstate shipment generally becomes a matter for the FBI if the value of the shipment exceeds \$10,000. The exact minimum is defined by the U.S. Attorney General's office having jurisdiction.

(4) **Interstate transport of stolen property.** Interstate transport of stolen property becomes a matter for the FBI if the value of the property exceeds \$50,000. The value must exceed \$50,000 for the Bureau to prosecute.

(5) **Damage to an aircraft or motor vehicle used for interstate transport.** In addition to the obvious vehicles, this category includes vehicles used for transporting people and baggage between terminals and planes.

(6) **Bomb threats or extortion.** The FBI participates with the Secret Service, the Bureau of Alcohol, Tobacco, and Firearms, the U.S. Attorney General, and the FAA in a coordinated investigation of bomb threats or extortion.

**FEDERAL EMERGENCY MANAGEMENT
AGENCY (FEMA)
500 C Street SW
Washington, DC 20472**

a. **General.** FEMA is the central point of contact within the Federal government for managing emergency efforts in both peace and war.

b. **Activities.** Among FEMA's activities are:

(1) Supporting state and local governments in a wide range of disaster planning, preparedness mitigation, response and recovery efforts,

(2) Developing practical applications of research to lessen the damaging effects of emergencies and disasters, and

(3) Providing training and re-education to enhance the professional development of federal, state, and local emergency managers.

c. **Regional offices.** There are ten FEMA regional offices. Each office is headed by a regional Director, who reports to the FEMA Director and is responsible for all FEMA programs in the region. The regional offices are:

Region I
442 J.W. McCormack, POCH
Boston, MA 02109

Region II
26 Federal Plaza
New York, NY 10278

Region III
Curtis Building, 7th Floor
6th and Walnut Streets
Philadelphia, PA 19106

Region IV
Gulf Oil Building, Suite 664
1375 Peachtree Street, N.E.
Atlanta, Georgia 30309

Region V
300 South Wacker Drive
Chicago, IL 60606

Region VI
Federal Regional Center, Rm. 206
Denton, TX 76201

Region VII
Old Federal Office Building
Rm. 300
Kansas City, MO 64106

Region VIII
Federal Regional Center Bldg. 710
Denver, CO 80225

Region IX
Building 105
Presidio of San Francisco
San Francisco, CA 94129

Region X
Federal Regional Center
Bothell, WA 98011

**INTERNATIONAL ASSOCIATION OF DIVE
RESCUE SPECIALISTS AND DIVE RESCUE,
INC.**

2619 Canton Court
Fort Collins, CO 80525

a. **General.** Dive Rescue, Inc., and the International Association of Dive Rescue Specialists

(1) Help train departmental and rescue teams in water rescue and recovery,

(2) Provides an information link for dive rescue authorities and experts,

(3) Receives reports from Federal and State agencies, the military, Coast Guard, Police and Fire Departments, equipment manufacturers, and diving instructor associations,

(4) Sponsors dive rescue training schools, seminars, and specialty programs for its members — e.g., a course called "Dive Scene Management and Ice Rescue," and

(5) Runs a "Help Line" for locating specialized equipment or determining other available options.

b. **Publications.** The association's literature includes:

(1) **Dive Rescue Handbook**, a field guide and emergency directory for the dive rescue specialist,

(2) **The Underwater Investigator**, and

(3) **Ice Rescue.**

**MILITARY ASSISTANCE TO SAFETY AND
TRAFFIC (MAST)**

MAST Interagency Executive Group
U.S. Department of Transportation
National Highway Traffic Safety Administration,
NTS-42
400 7th Street, SW
Washington, DC 20590

a. **General.** "The concept of MAST is to provide military helicopters for air ambulances to transport civilian emergency patients. These military air ambulances carry medically trained crews, medical equipment and supplies prescribed by the

military. Since not every military base in the U.S. has medically configured helicopters, participation in the MAST program is limited. Title 10, U.S. C, section 2635 (Section 814, P.L. 83-155) authorizes the use of DOD helicopter resources in a continuing medical emergency transport role in the civilian community within certain limitations, which includes competing with commercial operations of ground or air ambulances services for emergency evacuation missions."

-- Cmdr. B. Thomas Seheib, et al., *Journal of Emergency Medical Services*. November 1983, pp. 38-45, COPYRIGHTED ARTICLE

**NATIONAL OCEANIC AND ATMOSPHERIC
ADMINISTRATION (NOAA)**

U.S. Department of Commerce

a. **General.** NOAA's mission is to improve man's comprehension and use of the non-terrestrial environment and life. It accomplishes its mission through several different agencies. The agency most pertinent to airport operations is the National Severe Storms Forecast Center.

b. **National Severe Storms Forecast Center (NSSFC).**

(1) **Location.** Located in the Federal Building in downtown Kansas City, the NSSFC is an agency of the National Weather Service.

(2) **Responsibilities.** The NSSFC in Kansas City, Missouri, is the office responsible for forecasting severe thunderstorms and tornadoes throughout the contiguous United States. In addition, the NSSFC's responsibilities include a variety of national and regional functions. The 45 meteorologists and meteorological technicians at the NSSFC work round-the-clock to prepare national weather summaries, aviation forecasts, and advisories to aircraft in flight.

c. **The Severe Local Storms Forecast Unit (SELS).** SELS is responsible for:

(1) Issuing severe thunderstorm and tornado watches for the contiguous 48 states,

(2) Maintaining a continuous watch for thunderstorm activity,

(3) Issuing outlooks for general and severe thunderstorms for a 24-hour, 21-hour, and 16-hour period ending at 6 AM Central Standard Time the next day.

(4) Preparing, between February and August (the severe storm season) and any other time of severe weather, a graphic forecast of thunderstorm activity, which is transmitted over the National Facsimile Circuit,

(5) Issuing, as required, severe thunderstorm and tornado watches for specific areas and times from one to six hours in advance. Watches are issued for those areas where the forecast is for one or more of the following:

- (i) Hailstones of 3/4 inch diameter or larger,
- (ii) Surface wind gusts of 50 knots or greater, and
- (iii) Tornadoes.

d. National Aviation Weather Advisory Unit (NAWAU).

(1) **Convective SIGMET Section.** SIGMET is responsible for:

(i) Issuing hourly bulletins on hazardous convective phenomena (e.g., thunderstorms, tornadoes), for the continental U.S., that describe the location, intensity, movement, and trend of convective storms, and

(ii) Routinely plotting hourly radar reports from more than 100 sites in the U.S. and Canada, which keep the SELS forecaster briefed on significant developments.

(2) **NAWAU, In-flight and Area Forecast Section.** This section issues:

(i) Aviation forecasts for the 48 contiguous states based on guidance products prepared by NMC, and

(ii) Terminal and route forecasts prepared by the various WSFOs. Forecasts appear three times daily for up to 18 hours and include:

- (A) Ceiling,
- (B) Visibility,
- (C) Precipitation,
- (D) Surface winds,
- (E) Icing and freezing level,
- (F) Turbulence, and
- (G) Other matters of concern to aviation, and

(iii) In-flight advisories on potentially hazardous flying weather, which are broadcast

through FAA facilities to aircraft in-flight and to FAA and NWS personnel.

e. Regional offices.

NOAA
Eastern Region
585 Stewart Avenue
Garden City, NY 11530

NOAA
Southern Region
819 Taylor Street
10E09 Federal Office Building
Fort Worth, TX 76102

NOAA
Western Region
Box 11188, Federal Building
125 S. State Street
Salt Lake City, Utah 84147

NOAA
Central Region
601 E. 12th Street
Room 1836
Kansas City, MO 64106

NOAA
Alaska Region
701 C Street, Box 23
Anchorage, AK 99513

NOAA
Pacific Region, WFP
P.O. Box 50027
Honolulu, HI 96850

NATIONAL ORGANIZATION FOR VICTIM ASSISTANCE
717 D Street NW
Washington, DC 20004

NATIONAL TRANSPORTATION SAFETY BOARD (NTSB)
800 Independence Avenue, SW
Washington, DC 20594

a. General. The NTSB is an independent Federal accident investigation agency responsible for making rules and regulations governing the notification and report of accidents involving civil aircraft. In addition, the Board studies safety in air navigation and investigates ways to prevent and eliminate accidents.

b. Activities. The NTSB:

- (1) Investigates accidents involving civil aircraft,
- (2) Reports the facts, conditions, and circumstances of each,
- (3) Tries to determine the probable cause(s), and
- (4) Recommends to the Administrator measures which, in its opinion, may prevent similar accidents in the future.

c. Reports. The NTSB's accident reports are written in the public interest and are available to the public.

d. The Go-Team. One of the more publicly visible aspects of a major Board accident investigation is the "Go-Team."

(1) **Composition.** On 24-hour alert, a Go-Team is a group of Board personnel who have a wide range of accident investigation skills. An aviation Go-Team might include:

- (i) One of the five members of the NTSB,
- (ii) An air traffic control specialist, and
- (iii) Experts trained in witness interrogation, aircraft operations, and aircraft maintenance records.

(2) **Duration of work.** The length of time a Go-Team remains at the site of the accident varies, but generally a team completes its work in 7 to 10 days. However, accident investigation often requires off-site engineering studies and laboratory tests that may extend the length of the investigation.

e. Technical laboratory. The NTSB operates its own technical laboratory.

(1) **"Black boxes".** The laboratory is able to "read out" aircraft cockpit voice recorders (CVR) and decipher flight data recorders (FDR). These two so-called "black boxes" provide investigators with critical information recorded during what is often an aircraft's last minutes.

(2) **Metallurgical analyses.** The laboratory can also perform post-accident metallurgical analyses of wreckage parts. The laboratory can determine whether a failure resulted from inadequate design strength, excessive loading, or deterioration in static strength through fatigue or corrosion.

f. Reading material. Two useful pamphlets are *NTSB Documents and Information* and *Civil Aircraft Accident Investigation Guidelines*.

g. NTSB regional offices.

Anchorage, Alaska
Room C-145
701 C Street
Box 11
Anchorage, AK 99513

Kansas City, Missouri
Federal Building
Room 109
601 East 12th Street
Kansas City, MO 64106

Atlanta, Georgia
1720 Peachtree Street, N.W.
Atlanta, GA 30309

Los Angeles, California
Federal Building
15000 Aviation Boulevard
P.O. Box 6117
Lawndale, CA 90261

Chicago, Illinois
2300 E. Devon Avenue
Suite 140
Des Plaines, IL 60018

Miami, Florida
8375 Northwest 53rd Street
Suite 210
Miami, FL 33166

Denver, Colorado
10255 East 25th Avenue
Suite 14
Aurora, CO 80010

New York, New York
Federal Building
Room 102
JFK International Airport
Jamaica, NY 11430

Fort Worth, Texas
Federal Building
Room 7A07
819 Taylor Street
Fort Worth, TX 76102

Seattle, Washington
19415 Pacific Highway South
Room 303
Seattle, WA 98188

NATIONAL VOLUNTARY ORGANIZATIONS ACTIVE IN DISASTER (NVOAD)

Disaster Services

American Red Cross
17th and D Streets, NW
Washington, DC 20006

a. **General.** NVOAD brings together national voluntary organizations active in disaster service, with the purpose of fostering more effective service to people affected by disaster.

b. **Characteristics of member organizations.** The member organizations of NVOAD are:

- (1) National in scope and purpose,
- (2) Qualified under Internal Revenue Service regulation 501 (c)(3) as not-for-profit, and
- (3) Committed to providing resources (i.e., personnel, funds, and equipment), without discrimination, to meet the needs of people affected by disaster.

RADIO EMERGENCY ASSOCIATED CITIZENS TEAMS INTERNATIONAL, INC. (REACT)

3653 Woodhead Drive
Northbrook, IL 60062

a. **General.** An independent non-profit public service organization, REACT volunteers provide two-way radio communications in local emergencies and monitor the Official CB Radio Emergency Channel. REACT complies with local, state, and federal regulations, particularly those governing radio operations. REACT members, teams, and councils are protected under a \$1,000,000 General Liability Insurance Policy that covers REACT's activities.

b. **Membership.** Current membership includes 1400 teams and 25,000 paid members. Teams are active in the 50 U.S. states, 9 Canadian Provinces, Puerto Rico, Virgin Islands, Guam, Australia, Belgium, Denmark, France, Philippines, South Africa, Sweden, United Kingdom, West Germany, and Venezuela.

c. **Agreements.** Formal cooperative agreements exist between REACT and the American Red Cross, the Salvation Army, and the American Radio Relay League. Many REACT members

have, in fact, taken Red Cross First Aid and other training.

THE SALVATION ARMY

National Public Affairs and Disaster Services
1025 Vermont Avenue, NW, Suite 305
Washington, DC 20005

a. **General.** The Salvation Army consists of:

- (1) One national headquarters located in New York,
- (2) Four territorial or regional headquarters,
- (3) 39 divisional or state headquarters,
- (4) 1,115 Corps Community Centers in cities throughout the United States, and
- (5) 9,556 centers of operation.

b. **The disaster program services.** The Salvation Army disaster program provides:

- (1) Spiritual counseling, which includes comforting the bereaved and consoling the injured and distressed,
- (2) Family counseling and casework,
- (3) Registration and identification of victims,
- (4) Missing persons services, which attempt to find missing persons and to answer inquiries from relatives and families outside the disaster area,
- (5) Medical assistance,
- (6) Temporary shelter in Salvation Army institutions or temporary facilities set up and operated by the Salvation Army for disaster victims,
- (7) Mass feeding in existing Salvation Army institutions or in temporary facilities set up and operated by the Salvation Army for disaster victims, and
- (8) Mobile feeding services, where hot meals and/or snacks are provided for disaster victims and emergency workers at the scene of the disaster.

U.S. COAST GUARD

Office of Operations
Search and Rescue Division, G-OSR
2100 2nd Street, SW
Washington, DC

a. **General.** The U.S. Coast Guard's performs search and rescue operations. Its helicopter airlift units have a most significant role in performing its operations.

b. **Activities.** Among other services, it provides:

(1) Rescue surface vessels and aircraft to assist vessels and aircraft in distress, and

(2) Medical and surgical aid services and flood relief work.

U.S. DEPARTMENT OF TRANSPORTATION
Office of the Secretary of Transportation
400 Seventh Street, SW
Washington, DC 20590

a. **General.** The Department maintains a system of Regional Emergency Transportation Co-

ordinators and Representatives consisting of commanders of U.S. Coast Guard Districts, Regional Federal Highway Administrators, Deputy Directors of FAA Regional Offices, and FAA Regional Defense Readiness Officers.

U.S. POSTAL SERVICE

Chief Postal Inspector
475 L'Enfant Plaza, W, SW
Washington, DC 20260-2112

a. **Activities related to emergencies.** The Postal Inspection Service mandate for all catastrophes and natural disasters is to:

- (1) Assure that the mail is secure,
- (2) Protect postal property and funds, and
- (3) Restore service as rapidly as possible.

APPENDIX 5—SAMPLE VISUAL AID**POCKET CARD
"MIND - JOGGER"****(FRONT)**

AIRPORT EMERGENCY	
NOTIFICATION	PHONE NUMBERS
FIRE FIGHTING & RESCUE	xxx-xxxx
CONTROL TOWER	xxx-xxxx
AIRPORT MANAGER	xxx-xxxx
SECURITY	xxx-xxxx
MEDICAL	xxx-xxxx
MAINTENANCE	xxx-xxxx
RADIO CHANNEL No.	xxx-xxxx
RADIO FREQUENCY	xxx-xxxx

(BACK)

AIRPORT EMERGENCY REACTIONS		
INCIDENT	CODE	STAGING
AIRCRAFT	BLUE	HANG. A
MEDICAL	CROSS	TERM. C
RADIATION	X-RAY	BLDG. B
SECURITY	GREEN	TERM. G
BOMB THREAT	YELLOW	BLDG. 2
HIJACK	JUMP	BLDG. 4
FIRE	RED	TERM. B
SUPERVISOR - []		
PHONE	xxx-xxxx	
RADIO FREQ.	CHANNEL No.	
	xxx	

APPENDIX 6—IDENTIFICATION SCHEME FOR COORDINATORS

1. INTRODUCTION. Confusion in identifying command personnel during accidents is a serious problem. One solution is to issue distinctive colored vests with reflective lettering and hard hats to command personnel for easy on-site identification. Someone on-the-scene from the airport or from one of the responding agencies must serve as the Site Coordinator of the overall emergency response effort. He or she should also be easily identifiable. Where resources permit, additional vests and hard hats might be made available to other senior personnel who are on-scene.

2. SAMPLE IDENTIFICATION SCHEME. Colors and contrasting reflective front and rear lettering are generally suitable and easily identifiable. The following identification scheme is typical and should be considered by AEP planners:

a. Fire. Luminous red vest with yellow block letters: "Fire Chief."

b. Security. Luminous blue vest with white block letters: "Police Chief."

c. Airport operations. Luminous international orange vest with black block letters: "Operations Chief."

d. Medical. Luminous white vest with red block letters: "Medical Coordinator."

e. Medical crew (doctors and nurses). Luminous red vest with dark block letters: "Doctor" or "Nurse"

f. Safety organizations (NTSB, FAA, ALPA). Luminous green vest with brown letters: "Safety."

g. Coroner/forensics. Luminous brown vest with white block letters: "Coroner."

h. News media. Yellow arm bands labeled in black block letters: "News" or "Press."

i. Evacuation. Fluorescent green vest with contrasting letters: "Transportation Officer."

j. Maintenance. Luminous yellow vest with dark green block letters: "Maintenance Chief."

3. SITE COORDINATOR. Someone on-the-scene from any responding agencies, including any of those listed above, must serve as the Site Coordinator of the overall emergency response effort. He or she should be easily identifiable. Where resources permit, additional vests and hard hats might be made available to other senior personnel who are on-scene.

APPENDIX 7—SAMPLE MUTUAL AID AGREEMENTS

Sample 1

ANYTOWN AIRPORT TRAFFIC CONTROL TOWER AND ANYTOWN MUNICIPAL AIRPORT

LETTER OF AGREEMENT

EFFECTIVE: January 3, 1989

SUBJECT: AIRPORT EMERGENCY SERVICE

1. **PURPOSE.** The purpose of this agreement is to prescribe procedures to be utilized, to the extent practicable, to provide assistance at the scene of an accident, emergency, bomb scare, or potential emergency on or in the vicinity of the Anytown Municipal Airport, during the hours that the Anytown Airport Traffic Control Tower is operational.
2. **CANCELLATION.** Anytown Airport Traffic Control Tower and Anytown Municipal Airport Letter of Agreement – Airport Emergency Service, dated Dec. 1, 1983.
3. **SCOPE.** In the event of an aircraft accident, emergency, bomb threat, or potential emergency on or in the vicinity of the Anytown Municipal Airport, Anytown Airport Traffic Control Tower Personnel shall alert emergency equipment when any of the following request such action:
 - a. A specialist on duty in the operating quarters.
 - b. The pilot of the aircraft concerned.
 - c. The operator of the aircraft or his or her representative.
 - d. A representative of the airport management.

The airport shall automatically be closed when off airport fire equipment responds or any aircraft accident or incident occurs. It will remain closed until tower personnel have authority to open partial or complete areas of the airport from the airport manager or his or her representative. In cases of minor incidents, telephone permission will be allowed.

The amount of equipment and number of personnel responding to an alert will be determined by the equipment operator. After receiving the alert, the personnel operating the equipment will be responsible for handling the emergency.

4. **RESPONSIBILITIES.** It shall be the responsibility of Anytown Airport Traffic Control Tower Personnel to alert emergency equipment for each of the alerts listed below.

5. **PROCEDURES.**

Alert I: Potential minor emergency; equipment not requested at standby positions. Airport not closed unless off airport equipment responds.

- a. Notify airport emergency personnel via interphone or radio. If unable, contact Fire Central via red interphone.
- b. Notify airport manager or assistant manager.

- c. Notify aircraft operator or his or her representative, if able.

ALERT II: Potential Major emergency; aircraft has fire on board, faulty landing gear, no hydraulic pressure, etc. Airport is closed after the aircraft lands.

- a. Notify emergency personnel and fire central via red interphone or radio.
- b. Notify airport manager or assistant manager.
- c. Notify aircraft operator or his or her representative, if able.
- d. Notify fixed base operator.

ALERT III: Aircraft involved in an actual accident on or near airport. Airport is closed if on airport or emergency equipment must traverse the airport to reach scene.

- a. Sound airport siren for general alert.
- b. Notify emergency personnel and fire central via red interphone or radio.
- c. Request Police, Ambulance, and medical assistance as necessary via fire central or Emergency 911 number.
- d. Notify airport manager or assistant manager.
- e. Notify aircraft operator or his or her representative, if able, and the fixed base operator.

BOMB THREAT AND/OR DANGEROUS CARGO:

- a. Notify emergency personnel and fire central via red interphone or radio.
- b. Notify airport manager or assistant manager.
- c. Close airport to all traffic except an inbound target aircraft.
- d. Direct target aircraft to the designated search area – on the hard surface of runway 15, approximately 500 to 750 feet from the approach end.
- e. Direct emergency vehicles to standby position (approximately 100 yards from target aircraft).
- f. Stand by to assist in communications if requested.

6. GENERAL. Give all information possible to operators of the emergency equipment, including aircraft identification, type, nature of difficulty, number of people on board, location, and, if applicable, estimated time of arrival. When giving this information to other than airport emergency personnel, such as regular city or surrounding town emergency personnel, transmit in language that will be understood by those not familiar with aviation terms, e.g., large jet, single engine, four people, light twin, and include an estimate as to the number of passengers that are or may be on board.

If off-airport equipment has been alerted for an aircraft inbound with an emergency, and the aircraft is forced to land off of the airport, inform the equipment responding, through fire central, of the location in order that the equipment can be redirected to the scene.

Tower personnel shall control the movement of aircraft and vehicles on the runway/s or taxiway/s, to permit the emergency vehicles or other fire fighting equipment to proceed to the accident scene via the most expeditious route. Moving of the emergency vehicles shall take priority over that of taxiing aircraft until the emergency condition has ended.

Sample 2

LETTER OF AGREEMENT

SUBJECT: OFF-AIRPORT EMERGENCY PROCEDURES

1. **PURPOSE.** To prescribe procedures to be utilized to the extent practicable in the event of a potential emergency, actual emergency, or aircraft accident on or in the vicinity of Anytown Municipal Airport.
2. **SCOPE.** In the event of a potential emergency, actual emergency, or aircraft accident, on or in the vicinity of Anytown Municipal Airport, the Emergency Equipment Unit shall be notified when any of the following request such action:
 - a. FAA Specialist on duty
 - b. Pilot of the aircraft concerned
 - c. Operator of the aircraft or representative
 - d. Airport Manager or representative
3. **BACKGROUND.** The following ALERT Categories are utilized by the Emergency Equipment in response to a potential emergency, actual emergency, or aircraft accident.

ALERT I

Aircraft in minor difficulty:

Equipment shall stand by at the runway and secure upon completion of a safe landing.

ALERT II

Aircraft in major difficulty:

Equipment shall stand by at the runway until the aircraft has passed, then follow down the runway to the ramp or until the aircraft has stopped.

ALERT III

Aircraft involved in an accident, on or in the vicinity of the airport:

Equipment shall respond immediately to the scene. If necessary, by reference to the grid map, to the extent possible.

4. RESPONSIBILITIES.

- a. Anytown ATC Tower shall:

(1) Notify the Emergency Equipment Unit via the Crash Telephone Network System. In the event the "Easy 9" office does not answer, attempt contact through Ground Control.

- (2) Provide the following information, whenever possible.

- (i) Aircraft identification
- (ii) Aircraft type
- (iii) Nature of difficulty
- (iv) Landing runway and sequence
- (v) Number of persons on board
- (vi) Amount of fuel on board
- (vii) Location of persons on cargo/passenger aircraft

(viii) Presence of hazardous/radioactive cargo, if known.

(3) Advise "Easy 9" of any additional information as it becomes available.

b. Airport Emergency Equipment Operator ("Easy 9") shall:

(1) Advise of the ALERT Category in effect at the time of notification.

(2) Determine the amount of equipment and number of personnel responding.

(3) Provide for notification of any other agencies or personnel that may be required.

5. PROCEDURES.

a. In the event of an ALERT II, Anytown Tower personnel shall control aircraft and vehicle movements so as not to interfere with the emergency equipment, until they are advised by a representative of the airport management that the emergency situation is clear.

b. In the event of an ALERT III, the airport is closed. Anytown ATC Tower personnel shall be governed by the provisions of the Air Traffic Control Handbook, until they are advised by a representative of the airport management that the airport or specific portion of the movement area are open.

c. The Airport Operator or his or her representative shall ensure that at least one emergency vehicle maintains two-way communications at all times while the emergency equipment is at the scene of an incident or accident.

d. Upon sighting an emergency vehicle with flashing headlights (indicating radio failure), the emergency equipment shall be guided by the following light signals from the Tower:

Steady Green ----- Proceed to standby position/accident scene.

Steady Red ----- Hold your position clear of the landing area.

Flashing White --- Emergency cleared, secure.

e. Anytown Tower shall flash the runway lights as a signal to have men and equipment clear the runway.

6. GENERAL. Anytown Tower personnel shall normally test the Crash Telephone Network system at 9 a.m. daily. Circuit outages will be reported to the Airport Manager or his or her representative as they occur.

Original signed by:

Chief, Anytown Tower

Airport Manager, Anytown Municipal Airport

Chief, Off-Airport Fire Department

Sample 3**MUTUAL AID AGREEMENT****STATE OF****AND COUNTY OF**

this agreement entered into by and between the County of _____ Airport District and on
this the _____ day of _____, 19____, for a term of (months) (years).

WHEREAS, the County of _____ Airport District is a political subdivision of the State of _____
established and empowered to operate, maintain, and protect the airports and air facilities of the District and to promote the safety of said airports and the public therein; and

WHEREAS, the _____ is a (municipality) (state agency) (political subdivision) of the State
of _____ established and empowered to (recite powers as appropriate); and

WHEREAS, the parties hereto find that the possibility of major disasters threatening to life and property within their respective jurisdictions presents a common danger most effectively to be met by collective planning and effort; and

WHEREAS, the parties desire in advance of major disaster to coordinate life-saving, fire-fighting, law enforcement, and other related activities; and

WHEREAS, the parties hereto have through their respective governing boards or commissions approved the terms and covenants set forth hereinafter by appropriate resolutions;

NOW THEREFORE the parties hereto do agree and covenant one to another as follows:

ARTICLE ONE--DEFINITIONS

The following terms and phrases shall be understood to mean:

a. "Emergency Plan" -- such written manuals or plans established by the parties independently for the control of disasters, including but not limited to fire, flood, earthquake, riot or civil commotion and other emergencies threatening to life and/or property, as may occur in their respective jurisdictions.

b. "Letter of Agreement" -- a written undertaking by and between the parties hereto for the purpose of supplementing the terms hereof.

c. "Operations Control Center" -- that unit established by a requesting party for the purpose of coordinating and directing all emergency activities within the jurisdiction of said requesting party.

d. "Party" -- the parties hereto through their respective governing boards or commissions.

e. "Requesting Party" -- that party hereto in the jurisdiction of which a major disaster has occurred, including but not limited to fire, flood, earthquake, riot or civil commotion and other emergencies threatening to life and/or property, of such magnitude that the resources of the said party are, in the determination of the Senior Operations Officer of said party, not sufficient to control or abate the disaster or emergency conditions.

f. "Responding Party" -- the party hereto receiving a request for assistance from the requesting party.

g. "Senior Operations Officer" -- that official identified by a party hereto in the jurisdiction of which a major disaster has occurred who shall be responsible for determining the extent of the emergency, the sufficiency of resources under control of the said party, the requirements, if any, for assistance from other parties, the communication of requests for assistance to responding parties, the integration of resources from responding parties with existing resources, and the overall command of the Operations Control Center.

ARTICLE TWO -- OPERATIONAL PROVISIONS

- a. The responsibility for determining the magnitude of a major disaster or emergency condition and for taking initial measures to meet such disaster or emergency condition shall rest with the party in the jurisdiction of which the disaster or emergency arises in accordance with the emergency plan of said party.
- b. In the event a disaster or emergency condition is found by a party to exceed the resources available within its jurisdiction, the said party shall immediately identify a Senior Operations Officer and establish an Operations Control Center.
- c. The Senior Operations Officer shall determine if any requirement exists for assistance from other parties and shall as the requesting party communicate such requirement to responding parties.
- d. The responding party shall, in accordance with its emergency plan and/or any letters of Agreement with the requesting party, determine the availability of resources that can be dispatched to the requesting party to serve with the requesting party in controlling or abating the disaster or emergency condition.
- e. All resources of the responding party, including but not limited to personnel, law enforcement and fire fighting equipment, medical supplies, life-saving equipment, and other emergency supplies, that shall be dispatched to the requesting party shall be under the complete and exclusive control of the Operations Control Center and Senior Operations Officer of the requesting party, and shall act as agents solely of the requesting party, for the duration of the disaster or emergency condition or until such time as the said resources are released by the requesting party for return to the responding party.
- f. The rendering of assistance by a responding party under the terms of this Agreement shall be voluntary and not mandatory as conditions in the jurisdiction of the responding party shall warrant. The inability of a responding party to render aid shall in no case give rise to liability of the responding party to the requesting party or any third person for damages as a result of such inability and the parties hereto expressly agree that the responding party shall be indemnified and held harmless by the requesting party for any and all damages resulting from rendering of or failure to render assistance under the provisions hereof. If a responding party is not able to provide the requested assistance, or any portion of it, to the requesting party the responding party will advise the requesting party of such inability.
- g. The rendering of assistance by a responding party under the terms of this Agreement shall be without compensation and at no cost to the requesting party.

ARTICLE THREE -- AMENDMENT

- a. This Agreement may be supplemented by letters of Agreement between the parties for the purpose of exchanging information, identifying responsible officials, coordinating specific operations, or in any other manner providing detailed guidance for discharge of the mutual responsibilities undertaken by the terms hereof.
- b. Any change of the responsibilities, procedures and/or liabilities set forth hereinabove shall be written modification of this Agreement and not otherwise.

IN WITNESS WHEREOF the parties hereto have set their hands and seals to this Agreement as of the date first set forth above at , State of

ATTEST:

County of
AIRPORT DISTRICT

BY:

Its

ATTEST:

BY:

Its

APPENDIX 8—SAMPLE DRILL SCENARIO DESCRIPTION

Anytown Municipal Airport

Scenario -- Big Bird 88

Sponsored by: City of Anytown

Dept. of Aviation

Location: Ramp off taxiway A

Aircraft Operational Mode: East Operations

Incident for Drill Purposes:

At 2215 hours local time, October 23, 1988, Big Bird Airlines Flight #4444, a Boeing 727 inbound from Miami, lands without incident on Runway 9/27 and is given clearance to the ramp at the southern end. As the aircraft begins to cross to the ramp area, the pilot is advised by the flight crew that the rear compartment is being consumed by smoke. With the aircraft now on the ramp, the pilot feels the best alternative is to request that emergency equipment meet him at his destination. He passes the request to the air traffic control tower, which in turn forwards it to the airport's aircraft rescue and firefighting. The equipment rolls at exactly 2225 hours.

Fifty yards the destination, the entire aircraft is filled with smoke (including the cockpit). The pilot's decision is to stop the aircraft immediately and have the passengers and crew deplane. Unfortunately, because of slight smoke inhalation and distraction, he plows the aircraft into the concourse. It is now 2230 hours local time.

The aircraft bursts into flames upon impact; the collision also ignites flammable materials on the concourse. Although there are no passengers in this section of the concourse, a number of Big Bird Airline employees working in the gatehouses are injured by fire and flying debris. Aboard the aircraft, the pilot, co-pilot, and engineers are killed instantly. In the cabin section, eleven (11) people are killed by smoke inhalation; others are injured by smoke inhalation and by the impact of the collision of the aircraft with the building. The majority of the passengers are merely stunned and not seriously injured.

APPENDIX 9—AIRFIELD SAFETY PRECAUTIONS FOR EMERGENCY DRILL PLANNERS AND PARTICIPANTS

1. INTRODUCTION. The modern airport contains jet and propeller-powered aircraft, service trucks, and heavy equipment used to supply or repair aircraft. For aviation industry employees such as pilots or aircraft handlers, the airport is a well-ordered operating area where aircraft and ground vehicles move in set patterns. The hazards related to moving machinery are well known; avoiding the hazards is second nature because of frequent training. For strangers to the airport, however, the patterns and precautions that apply around aircraft and the operating area are not obvious, so an explanation of some of the basic airport hazards and precautions follows.

2. HAZARDS AND PRECAUTIONS.

a. Propeller aircraft.

(1) The obvious hazard is the whirling propeller; however, at night, the propeller is nearly invisible. The best habit is to stay away from the front, or nose, of the aircraft and the engines.

(2) At times, the airport is very noisy, so it is easy not to hear an approaching aircraft; anyone on an airport should look around when an aircraft is near.

b. Jet aircraft. The jet engine is not an obvious hazard since the engine is contained in a streamlined covering, or nacelle; but both open ends of the tubular jet engine must be avoided.

(1) The front is an air intake for the engine and is actually a very large and powerful vacuum cleaner — people should stay several car lengths away.

(2) The rear or exhaust of the engine is an outlet for high temperature and high velocity air and should be avoided by an even greater distance.

(3) At night, if there is a lot of noise nearby, it is very hard to tell if a jet plane's engines are running because no propellers are visible. People should stay away from the airplane and any area into which the airplane may turn.

c. Helicopters. Two hazards are associated with helicopters —the overhead or main rotor and the tail rotor.

(1) The main rotor extends well out to the sides and front of the machine. People must stay well outside the arc of the turning blades. Anyone who is boarding an operating helicopter must crouch low to ensure staying below the turning main rotor.

(2) Great caution must be paid to the tail rotor because it is often low enough to be at the level of persons near the helicopter. Unlike aircraft with wings, where the tail is often a relatively safe area, the tail of a helicopter is equipped with the tail rotor and must be avoided at all times.

d. Ramp areas. The area on which airplanes are parked is called the ramp. Here not only aircraft engines and moving aircraft create hazards but service vehicles such as fuel trucks and cars create them as well.

e. Taxiways. Taxiways are “roadways” used by aircraft to taxi from the ramp to the runway or runway to ramp. Taxiways are marked by yellow lines on the edges and center; at night, blue lights mark the edges of the taxiways.

(1) Everyone should stay clear of taxiways because pilots will not expect pedestrians or vehicles to be on them without permission from the control tower.

(2) At airports where there are control towers, people and vehicles cannot move on taxiways without permission from control tower operators.

f. Runways. Runways are the areas used for aircraft takeoffs and landings. They are marked by large white stripes and, at night, by white lights along the edge. Aircraft on the runway move at high speed, so it is important to avoid moving onto a runway. Runways are also restricted by the control tower.

g. Trucks. As already mentioned, there are many large trucks and special purpose vehicles, which move about on the airport.

(1) Visibility from these vehicles may be restricted because of their bulk or their height, so they must be avoided, particularly when they are moving in reverse.

(2) During airport emergency drills, many fire trucks and ambulances come into the airport. Because the drivers of these vehicles are not usually familiar with airports, they must use extreme caution when moving on the airport.

(3) It is important for pedestrians to remember that there is a great deal of commotion and activity to distract vehicle drivers. Therefore, they must stay away from vehicles that are already moving or that have drivers in them, ready to put them in motion.

h. Nighttime. At night, the many-colored lights of the airport, vehicles, and aircraft can confuse even experienced aviation workers. Anyone on the airport should be extra careful in the dark, for it would not be hard to move unknowingly into a hazardous area near moving aircraft or vehicles. Everyone must look around often and stay away from emergency vehicles.

APPENDIX 10—SAMPLE DRILL CRITIQUE SHEETS

ANYTOWN MUNICIPAL AIRPORT

OPERATION BIG BIRD '88

OCTOBER 23, 1988

COMMAND AND CONTROL EVALUATION

EVALUATOR'S NAME

ADDRESS

PHONE

1. Time exercise initiated:
2. Method of notification to ARFF, Police, Mutual Aid:
3. Upon arrival at scene, how was the Command Post established?
4. Was there adequate radio communications equipment?
5. Who established the initial Command Post?
6. When responding units arrived on the scene, did they report to the Command Post?
7. Principal weaknesses observed:
8. Principal strengths observed:
9. Recommendations:

ANYTOWN MUNICIPAL AIRPORT

OPERATION BIG BIRD '88

OCTOBER 23, 1988

ARFF EVALUATION

EVALUATOR'S NAME

ADDRESS

PHONE

1. How was the initial information received?
2. How were the ARFF personnel notified by FAA Tower as to location of scene?
3. Was the response to the scene made in a safe but timely manner?
4. How many personnel were dispatched to the scene?
5. Was adequate direction given to those ARFF personnel on the scene by the officer in charge?
6. Was there adequate communications equipment available at the scene?
7. How many ARFF individuals entered the aircraft to begin extrication?
8. Were victims being extricated in a safe manner?
9. At what time did off-Airport fire equipment arrive?
10. Did off-Airport personnel respond to the established Command Post?
11. Were any firefighters relieved to take breaks during the exercise?
12. Did the Fire Chief retain command of the scene?
13. Additional remarks:

ANYTOWN MUNICIPAL AIRPORT**OPERATION BIG BIRD '88****OCTOBER 23, 1988****OVERALL MEDICAL EVALUATION****EVALUATOR'S NAME****ADDRESS****PHONE**

As the Overall Medical Evaluator, it is anticipated that you will feel free to roam at will and evaluate any and all medical aspects of this exercise. The questions listed below are merely indicators of areas that should receive attention during the exercise.

1. Time exercise initiated:
2. After extinguishing the simulated fire, did the Aircraft Rescue and Firefighting personnel attend to the victims in a timely and professional manner?
3. Was the triage area established at a safe distance from the aircraft?
4. Was the triage area clearly identified?
5. What was the approximate distance victims had to be carried to the triage area?
6. Was there adequate room within the triage area to attend to the victims?
7. Approximate time first ambulance arrived:
8. Upon arrival of the ambulance services, who directed the ambulance services to the staging area?
9. Approximate time first victim was brought to the triage area:
10. When victims were transported to the triage area, were they placed in the appropriate areas? (Areas are categories I, II, and III):
11. Were triage tags used appropriately?
If not, describe the problem(s):
12. Were there adequate litter bearers?

Was the dispatch of ambulance services done in a timely manner?

If not, explain:

13. Were medical supplies adequate to meet the needs?
14. What supplies, if any, were in short supply?
15. How were DOA's handled?
16. What weaknesses were observed?
17. What principal strengths were observed?
18. Recommendations:

ANYTOWN MUNICIPAL AIRPORT**OPERATION BIG BIRD '88****OCTOBER 23, 1988****SECURITY AT THE SCENE****EVALUATOR'S NAME****ADDRESS****PHONE**

1. Time exercise initiated:
2. Did responding Police agencies arrive in a timely manner?
3. Were adequate Police personnel on the scene?
4. Upon arrival on the scene, did Police personnel set up in strategic locations?
5. Did Police personnel have adequate communications?
6. Could you determine the number of police agencies on the scene?
7. How many vehicles actually were set up within the Command Post area?
8. Was the individual or individuals in charge at the Command Post easily identified?
9. Should there have been messengers posted at the Command Post?
10. Were adequate directions given to those extricating victims from and around the aircraft?
11. Major points of weakness:
12. Principal strengths:
13. Recommendations:

